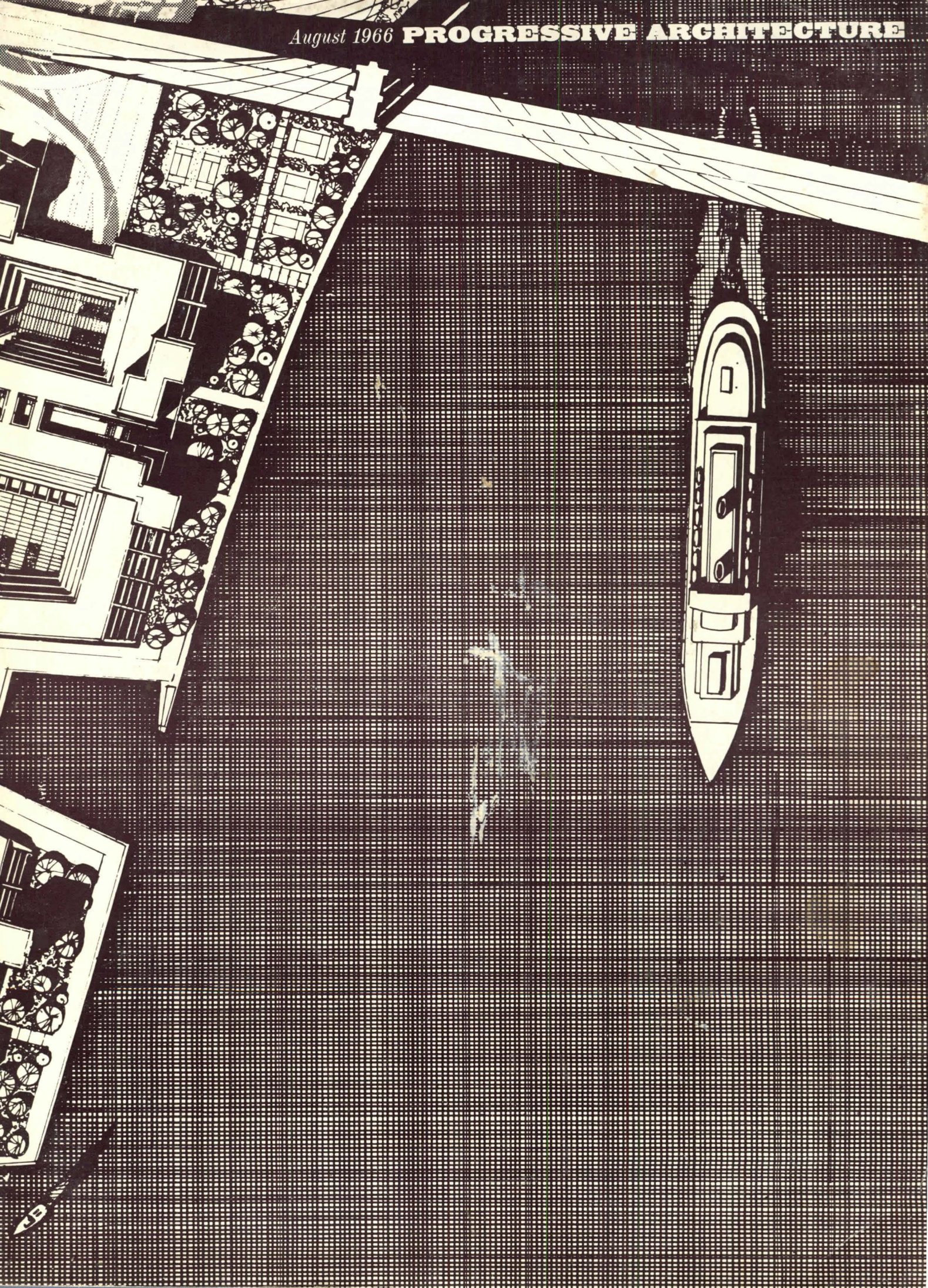




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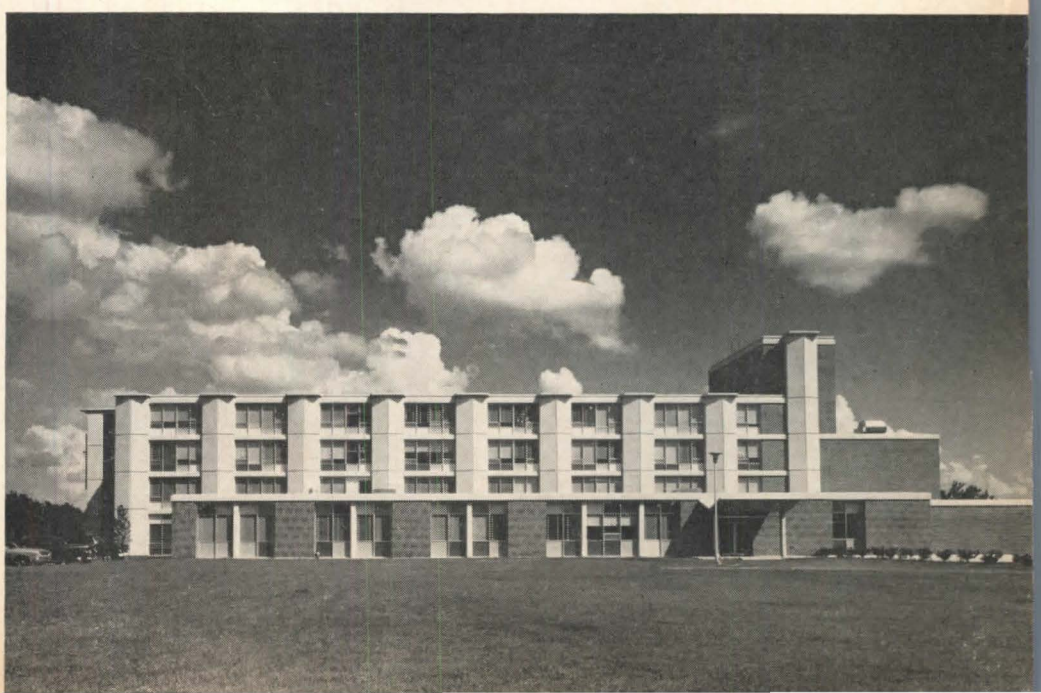
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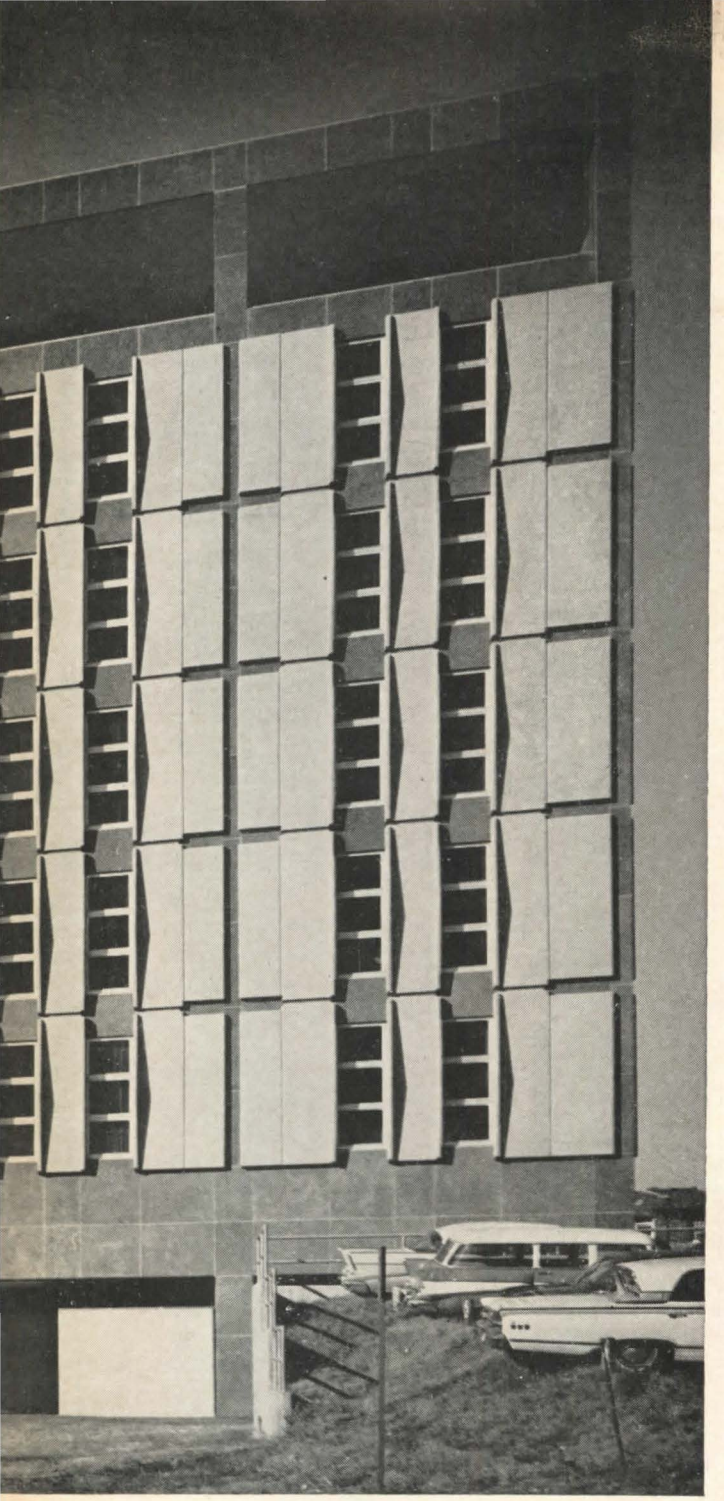
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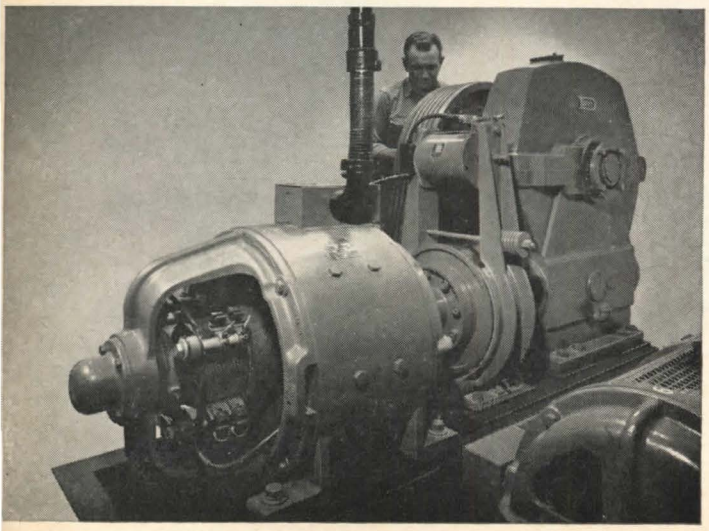
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RIGHT: Holy Family Hospital, Atlanta, Ga. *Architects:* Aeck Associates, Inc. *General Contractor:* Beers Construction Co. One Dover Geared Elevator, 4000 lbs. capacity, 350 FPM; one Dover Oildraulic Elevator, 4000 lbs. capacity, 200 FPM; installed by Dover Elevator Company.





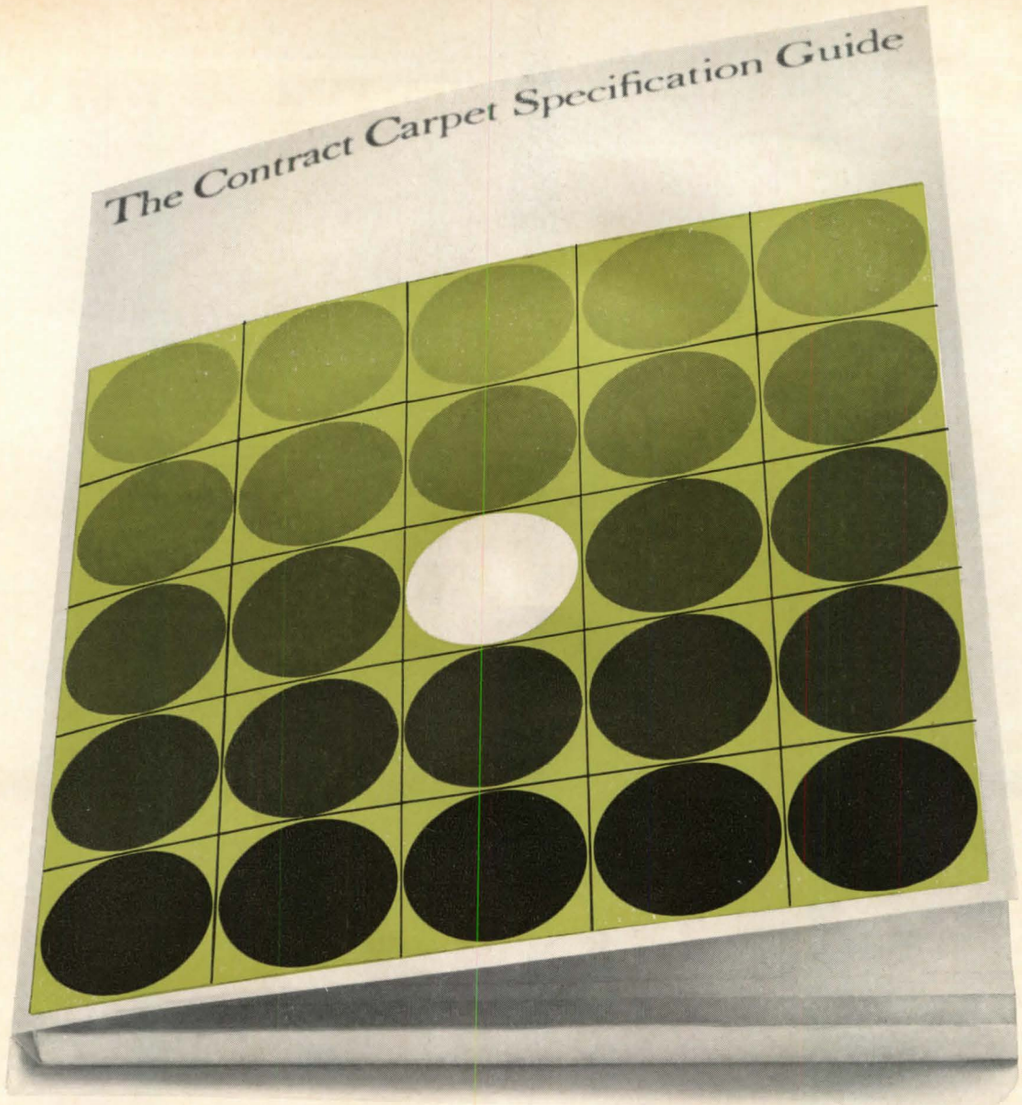


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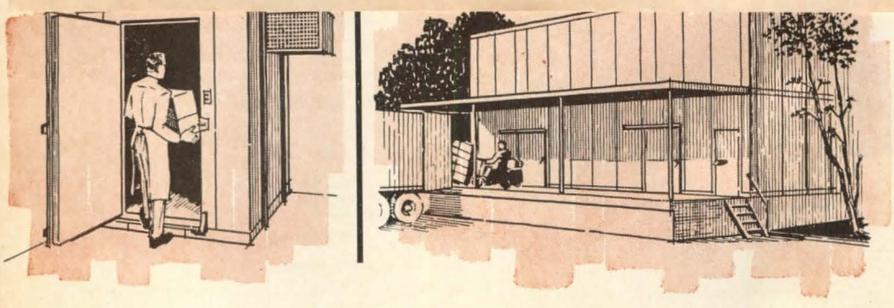
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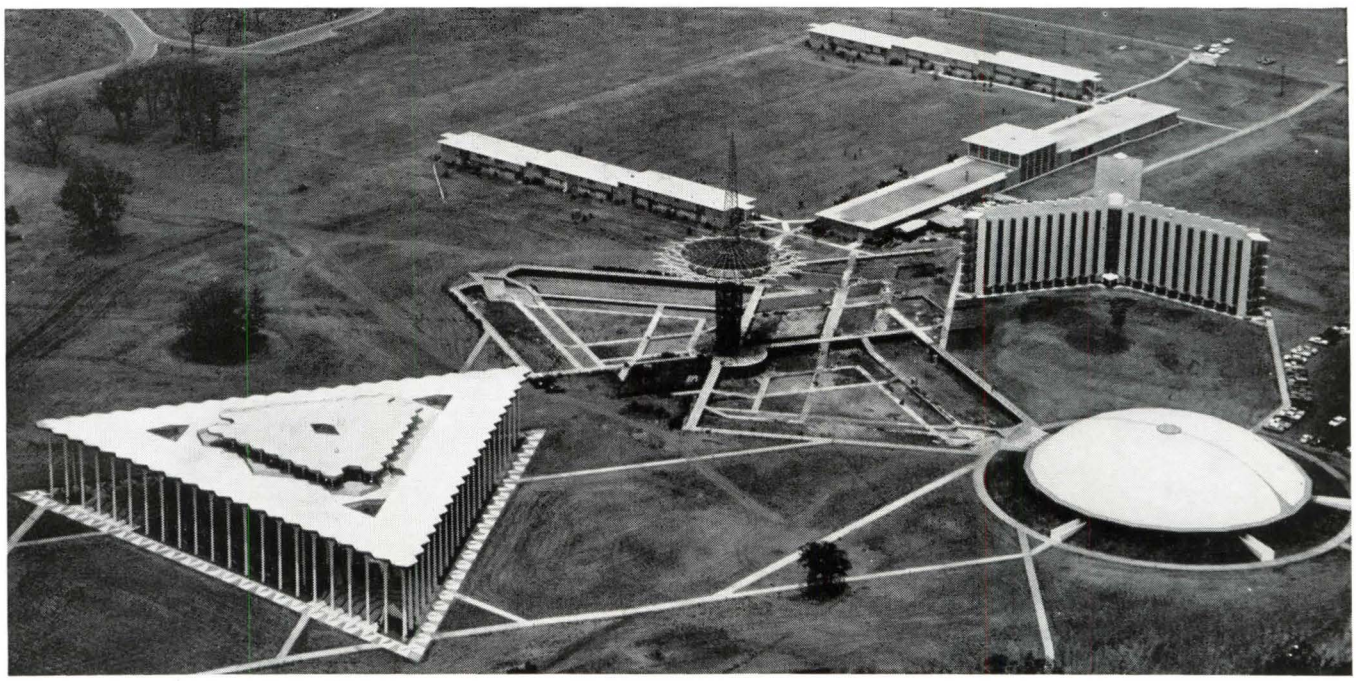
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8 **DRAWINGS and PHOTOS** of 36 different installations

9 **REFRIGERATED WAREHOUSES**

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LUMINAIRE CEILING SYSTEMS BY
Armstrong

Continued from page 16

process?"

Then you point out that the dialogue between Tim Prentice and Ralph Ingersoll provides no answer, but I'm not sure I agree with that. I believe that P/A would do a real service to its readers, the architects, and to its reader's clients if it were to reproduce the dialogue as carried in the May issue, complete with photographs, as a sort of think piece for those about to design a house, or those about to have a house designed.

At any rate, I found this article extremely interesting and significant, as well as the ones on Short-Term Housing, Stabile Homes, and, of course, the beautiful and complete spread on Sea Ranch.

Apparently my colleagues here agree. It has taken well over a month for the magazine to reach my desk and I'm only third on the routing slip. In addition to this, the magazine has obviously been read and noted carefully, since most of the pages are loosened from the binding.

My congratulations again on the continued excellence of P/A. Reading it continues to be a high point of every month.

JAMES W. PLUMB
Publicity Supervisor
American Plywood Assoc.
Tacoma, Wash.

Creating Taste: A Question of Responsibility

Dear Editor: I would like to air on your pages some of my irritation about architects and their attitudes. Perhaps the most annoying one is that architects consider themselves to be arbiters of public taste, but take no responsibility for creating taste. They design buildings and weep when the public criticizes. How can they expect a receptive attitude to their buildings unless they take responsibility for educating that public (who are the ones who eventually buy buildings).

I suggest that all architects give some thought to this problem; and that they do something about their "future buyers." For example, as a first step, architects might volunteer teaching time to their local high schools and attempt to show why some things are good and others bad—a sort of "Building Appreciation 1-A" course. Instead of carping about the people who dont "see," do something to help people "see." An educated public would do more toward changing the future environment in which we live than the few buildings built by most architects in their lifetime.

JANE L. WARD
Bolt Beranek and Newman, Inc.
Cambridge, Mass.

Copley Square: Moving Beyond Preconceptions

Dear Editor: In pronouncing the Copley Square competition "a milestone in contemporary national urban competitions," P/A certainly led with its chin (p. 53, MAY 1966 P/A). One would think there's never been a Corbu, a CIAM, a Team X, or, for that matter, the last 60 years. In their attempt to reproduce the accepted and familiar "Boston Green" with fountain, benches, and evergreen hedges in formal-ordered year-round composition, the winning schemes fail to advance our understanding of the problems of the contemporary urban place and fail to enhance the means by which we traditionally treat the urban space.

In the year of "Motation" (JULY 1965 P/A), "Urbanography" (APRIL 1966 P/A), and other attempts at sequential development within the larger framework, the compositional approach has little relevance. It seemed within the possibilities of the Boston Redevelopment Authority to treat Copley Square

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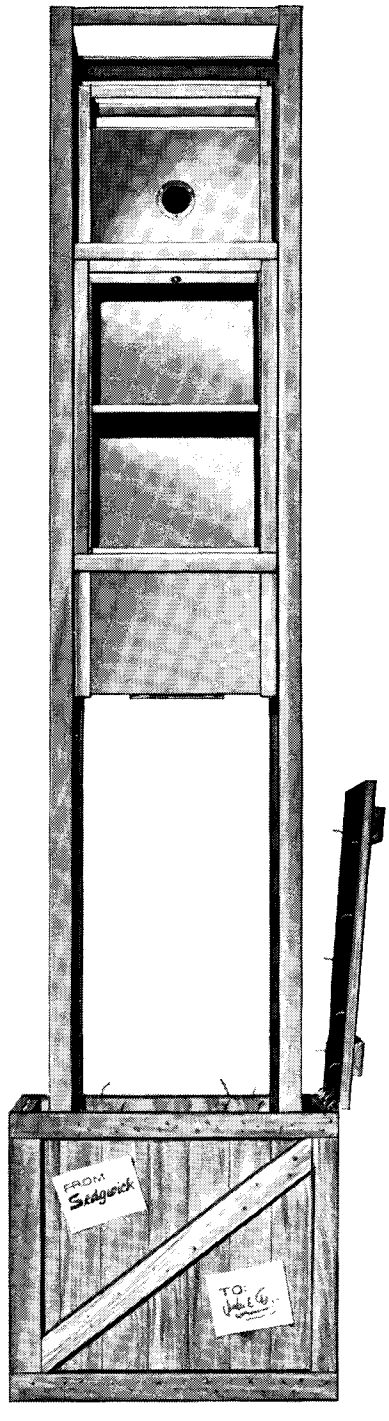
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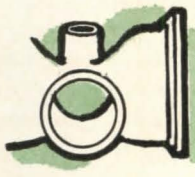


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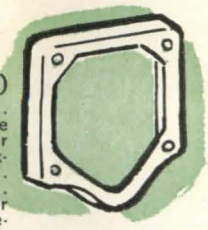
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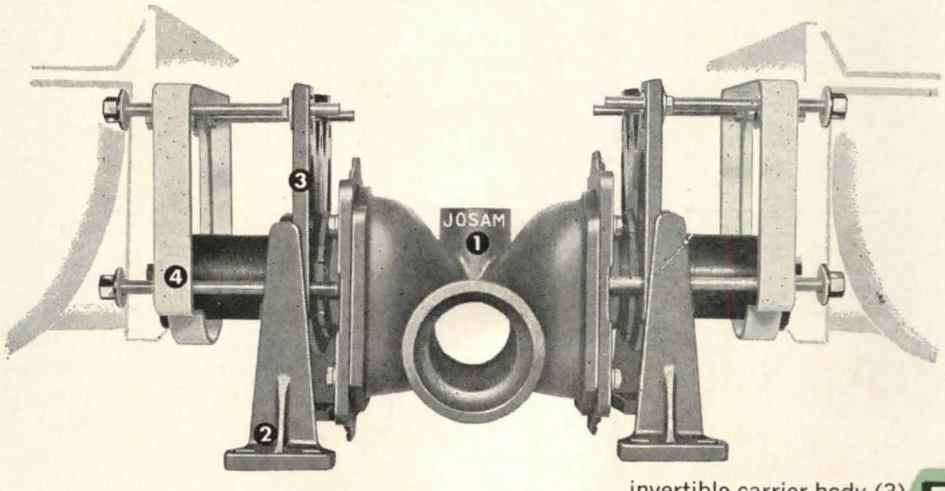
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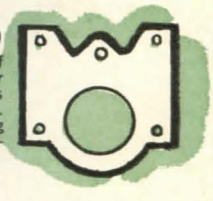
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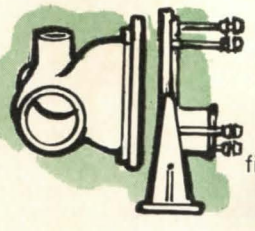


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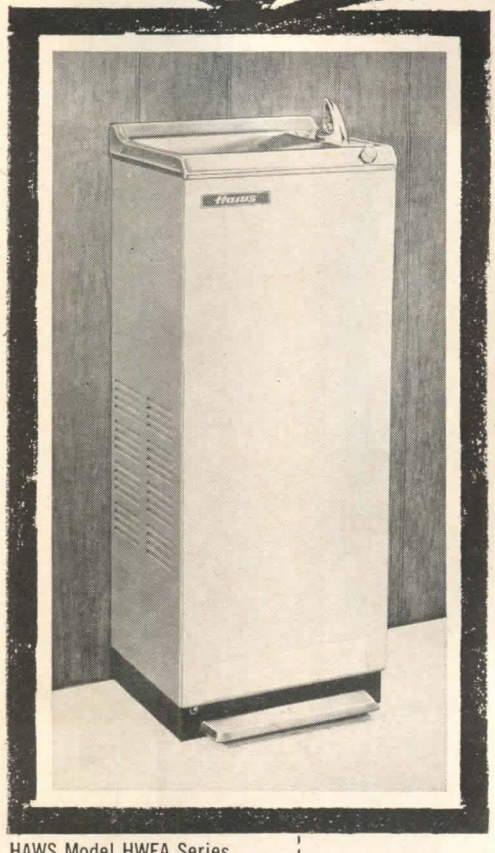
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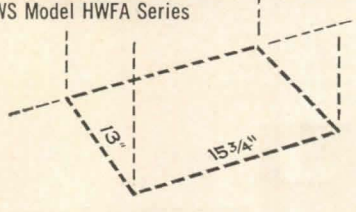
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as a major space—a space containing various distinct activities and scales of movement, relating its events to other urban happenings in the city. Considering that this intersection is one of Bostons busiest, and has currently been transformed and dominated by the motions and noises of the car, only in the most abstract visual sense could any unification of the conflicting activities and scales of movement be achieved. Visual balance could exist, at best, only momentarily, since the city itself is not a static thing and its parts are subject to changing patterns of use. The romantic notion of a "place" within the space is clearly sub-urban and as a planning premise has long been invalidated.

The establishment of total space would naturally have permitted expression of another primary concern. That is the ability of a space to transcend its three-dimensional existence as a space to become an element encouraging the meeting and mixing of people. What would attract busy people to cross busy streets? In fact, each of the schemes seem to deny what makes everyday life in the streets so special and fascinating for us 20th-Century pedestrians—with sounds and visual things popping up and moving everywhere around us. The "Square" might be allowed an active part in the entire milieu and encourage its own use by connecting internal walks to sidewalks by mechanized bridges or a system of paved crosswalks at grade. To intensify activity within, why not reverse the north-south and east-west subway stations from the northwest corner of the square to discharge and receive passengers within the Square (particularly in light of Boston's current M.T.A. Station remodeling project)?

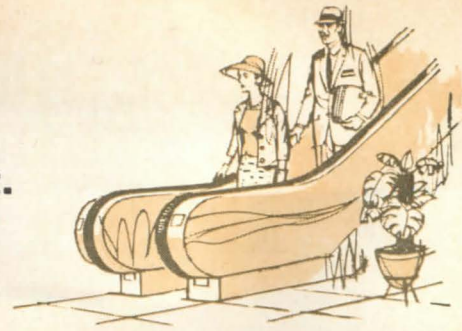
Where, in any of the schemes, are well-scaled areas where different year-round or seasonal activities may take place? How do we use such a plaza when the fountain and pool are shut down? At night, shouldn't it be a totally different space? And in the winter? It seems very basic that the cycles of morning to evening, summer to winter would be recognizable and implicit in the plan of outdoor spaces.

As we seem to lack modern prototypical solutions for the redesign of urban spaces, it becomes increasingly crucial to search out and applaud fresh, vital, and imaginative attempts at breaking down any preconceived notions about what the "Square" should be.

RICHARD ROTHMAN
Chicago, Ill.

Continued on page 24

Just add people.
Haughton Escalators do the rest.
Beautifully.





Architects: Welton Becket & Associates, Albert C. Martin & Associates, Paul R. Williams & Associates;
Contractors: J. W. Bateson Company, Inc. and J. W. Bateson Construction Company, Inc.

You're looking at the compact, space-saving Haughton Escalators in Los Angeles' new Federal Office Building. Beautiful to see? Yes. And, equally important, they incorporate a number of exclusive design advancements that make them exceptionally beautiful performers, too.

For example: The handrail is positively-driven at a speed synchronized with the steps. Positive drive eliminates the "creeping" associated with traction-drive handrails . . . enhances passenger comfort and confidence.

What's more, the handrail extends *beyond* the inside panel mouldings. Passengers with children or an armful of packages can lean against it without fear of being upset. And the handrail has a clean, "live" feel that inspires complete confidence.

We've made boarding a Haughton Escalator easy and comfortable, too, by enlarging the track radii at the lower end. This makes the transition from horizontal to the 30° incline smooth and gradual.

There are a lot more reasons for including Haughton Escalators in your new construction or modernization plans, when you want to move up to 8,000 people per hour with comfort, safety and reliability. You should know about them. Ask your Haughton representative for details. He's listed in the Yellow Pages. Or, write us.

The new Los Angeles Federal Office Building is also served by 16 Haughton Passenger Elevators and 2 Haughton freight elevators.

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ELEVATORS / ESCALATORS

Haughton Elevator Company / Division of Toledo Scale Corporation / Toledo, Ohio 43609

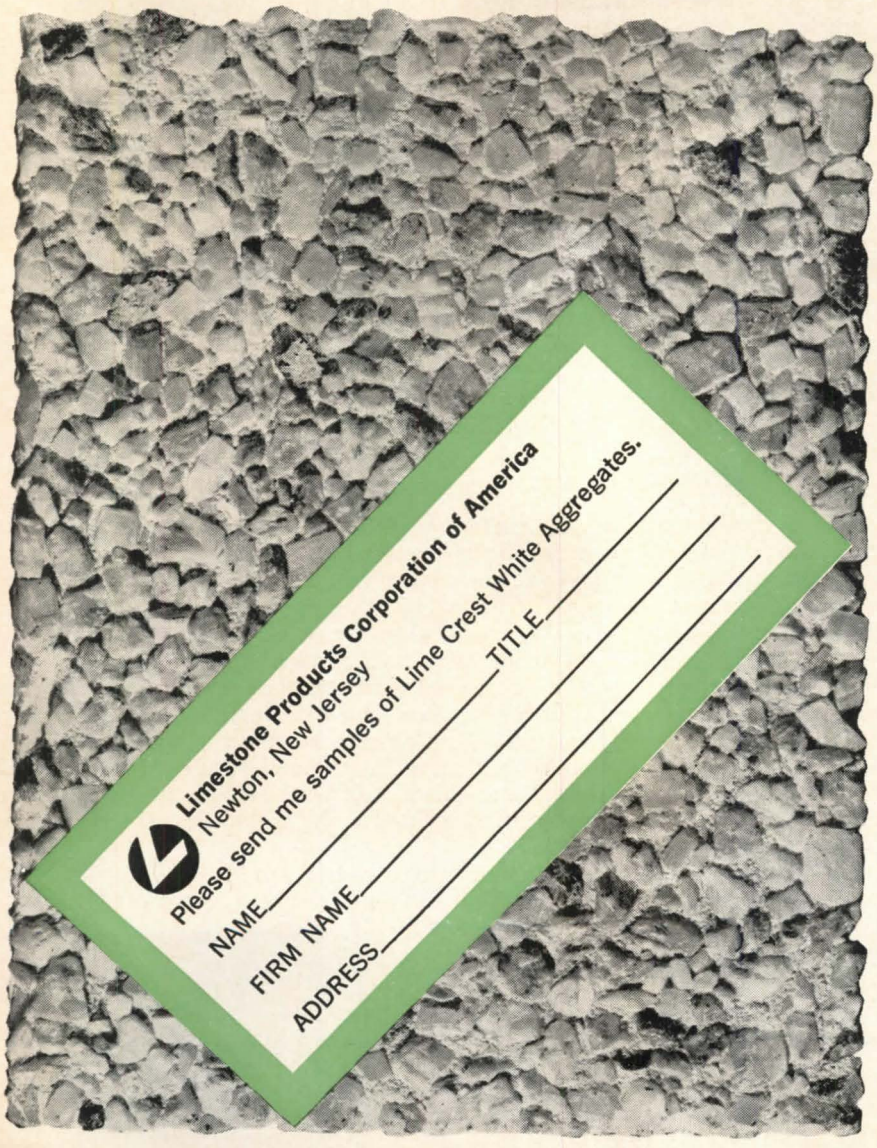
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SOMETHING NEW IN STRUCTURAL DESIGN

LIME CREST WHITE AGGREGATES

With their unusual crystalline structure Lime Crest White Aggregates add light reflectivity to pre-cast panels and color contrast to poured concrete. Their predominant, long-lasting whiteness makes possible the use of pastel shades and other light colors in a mix . . . almost any desired effect can be achieved—and much more economically than with cut stone.

Where appearance makes a difference Lime Crest White Aggregates look better and cost less. If our photograph doesn't convince you, let us send you some samples that will.



On Readers' Service Card, Circle No. 372

Continued from page 22

Paris Hilton: Cleanliness Before Architectural Godliness

Dear Editor: Obviously, for business reasons, we are very pleased to receive P/A in this office. For personal reasons, the magazine gets considerable attention—enough so, that I feel qualified to make a comment or two where a comment seems necessary.

I am not quite sure I know why you delighted in taking a sock at Paris (p. 50, JUNE 1966 P/A). Someone is quite bitter, and I think unnecessarily so.

I have just spent a month there. While the Hilton Hotel may not be the most beautiful building in the world, it certainly is in keeping with its surroundings. You might better have heaped vituperations on the French for their amazement, emblazoned on the front pages of most of the papers, that we would be so stupid as to put a toilet, wash bowl, tub-shower and bidet in the same room. Hilton did this 400 times in the new edifice.

C. JERRY SPAULDING
President, Spaulding & Hayward, Inc.
"Anything, Anytime, Anywhere"
Worcester, Mass.

A Note from the Great Northwest

Dear Editor: As a wife who reads P/A every month, I have thoroughly enjoyed many of the articles, and wondered who was kidding whom in others. Some of the writers are harder to fathom than a doctor's prescription.

However, when facts are wrong, I must protest. Or, at least, ask the author to qualify his statements.

In the article "Turning the Heat On, Electrically" (APRIL 1966 P/A), the author states that a house must be insulated differently for electricity. Having changed from oil heat to electric, using the same distribution system, and not touching the insulation, the only difference noted in my house was more even heat. There was absolutely no change in the cost of operation or in the humidity.

Regarding costs of operation, may I suggest that the author qualify by geographical area. Obviously, he has never heard of the Great Northwest, where we enjoy the luxuries of low-cost electrical living.

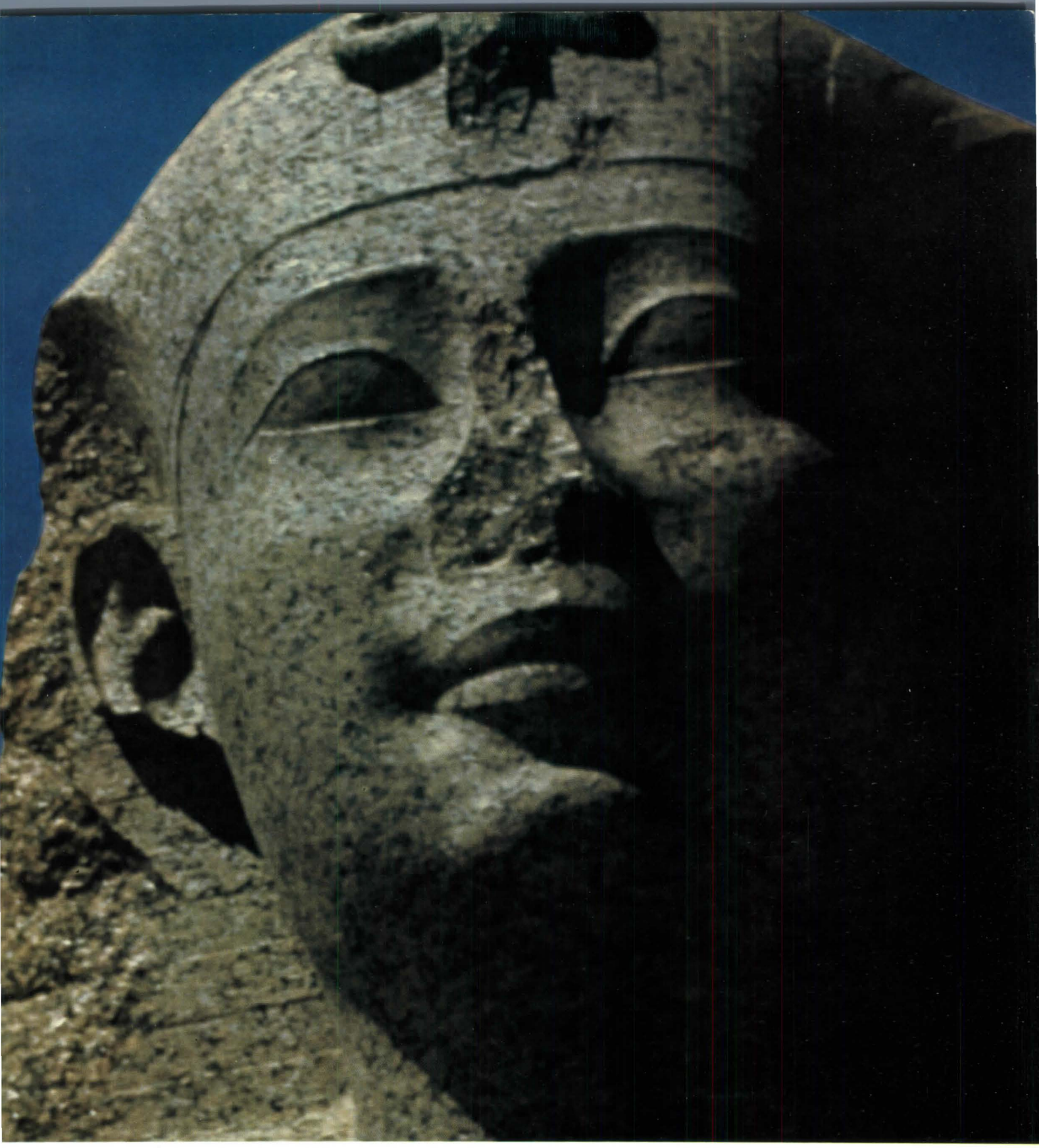
MRS. FRED H. LEHMAN
Vancouver, Wash.

Theology and the Architect

Dear Editor: Concerning your articles on church architecture (MARCH 1966 P/A): In stating a position on the architectural design of churches it is necessary to de-

Continued on page 32

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DURABILITY
The ability to withstand, to resist and to prevail
is the law of superiority for both man and nature.
This is how Aluminum Company of America's
Duranodic finishes survive and triumph
over the challenges of atmospheric conditions:

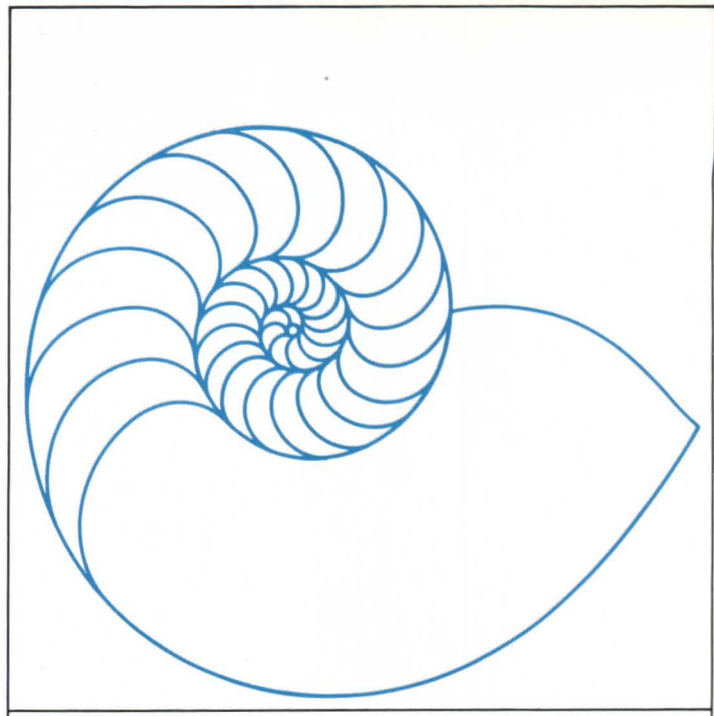
ALCOA





The sun beats the city, burning, scorching and even destroying. But Duranodic* 300 finishes resist the sting of sunlight and complement its natural beauties.

An inbred characteristic of Alcoa® Duranodic finish is its natural richness. Duranodic 300 finish is neither a dye nor a pigment. Its color is integral with the aluminum oxide cell structure so that hue and oxide are an inseparable unit.





The moods and movements of the sea become a way of life for coastal dwellers. They cherish her beauties, ponder her mysteries, respect, and sometimes fear, her destructive power. But Duranodic 300 finishes withstand the deteriorating effects of sea spray and salt-packed air.

Corrosion resistance is inherent to aluminum because of an oxide film that forms naturally when the metal is exposed to air. Alcoa research has increased the density of this film in Duranodic 300 finish to make it one of the most corrosion-resistant finishes available.





In harsh industrial complexes, impurities clog nd stain the air, leaving behind a blanket of esidue and decay. Here Duranodic finishes stand rmly, maintaining their rich, clean appearance nrough years of contaminating exposure.

Duranodic 300 finish is the refinement of earlier Alcoa nishes. The Alumilite* hard-coating process as the predecessor that is still used where an extremely ard, dense anodic surface of superior abrasion resistance required. Duranodic finishes retain these qualities nd combine them with improved appearance and esign capabilities.





The life of a city is in the movement of its people. Versatile Duranodic finishes withstand the pushing, kicking, pulling and scuffing of human activity, always standing ready, unscathed, for what comes next.

Duranodic 300 finishes have virtually unlimited applications. They are freely used in both exteriors and interiors, combining function and lasting beauty.

*Trade Name of Aluminum Company of America

And with DURABILITY—
Color, Versatility, Compatibility

Duranodic 300 finishes are more durable and harder than most other metal finishes used in building construction today. As hard, in fact, as the sapphire—the second hardest natural substance known to man.

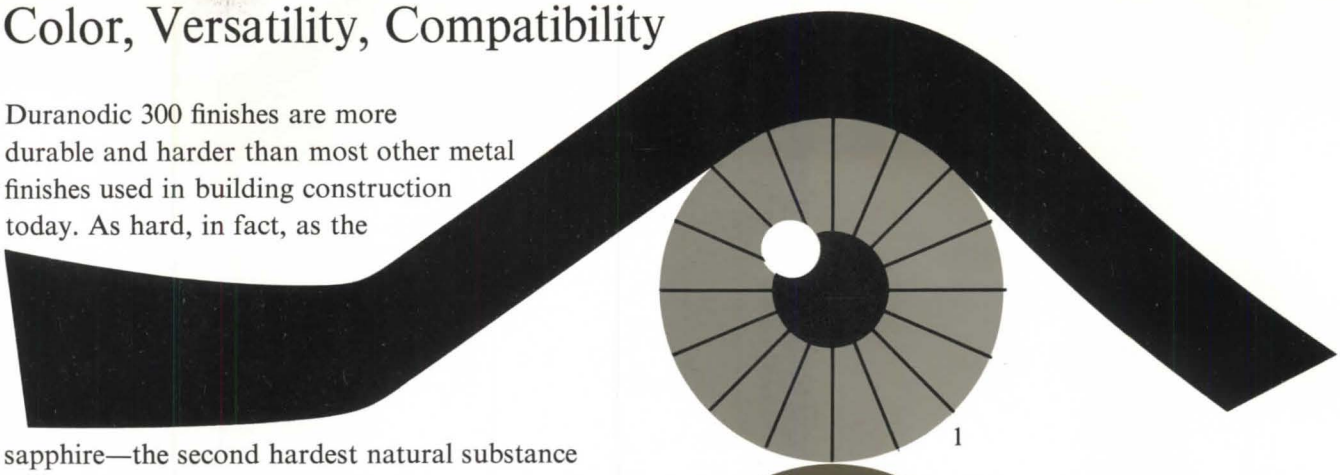
Tested in ASTM test D658-44, the nationally accepted abrasion test, Duranodic 300 finishes proved to be up to twice as abrasion-resistant as regular anodic finishes, which have been used successfully for more than 35 years in various architectural applications.

Since Duranodic 300 finishes rely on elements inherent to the aluminum alloy, they are colorfast. Under simulated, high-exposure tests at Alcoa Research Laboratories, Duranodic 300 finishes showed negligible color change and no chipping, cracking or blistering.

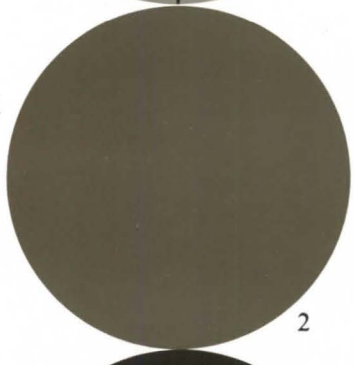
Duranodic 300 finishes are becoming the most versatile of all building materials. Their hardness and colorfastness make them ideal for office or apartment buildings, schools and industrial facilities. And their minimum .7-mil thickness is particularly well-suited for kickplates, hand railings and any other high-traffic area.

Alcoa has tested Duranodic 300 finishes with practically every known building material and found them to be, in almost all cases, highly compatible. The rich, natural tones of Duranodic 300 finishes blend with or accent other materials to provide the architect with handsome design and lasting surface beauty.

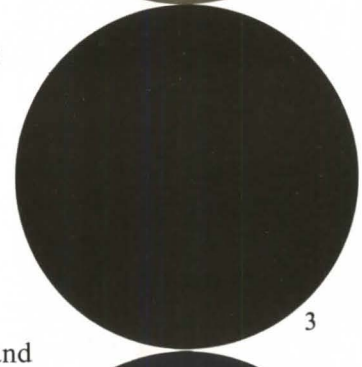
Variations of the colors as shown can be supplied by Alcoa upon request. For more information, contact your Alcoa sales office or write Aluminum Company of America, 1001-H Alcoa Building, Pittsburgh, Pa. 15219.



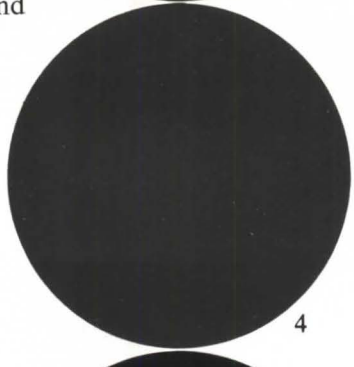
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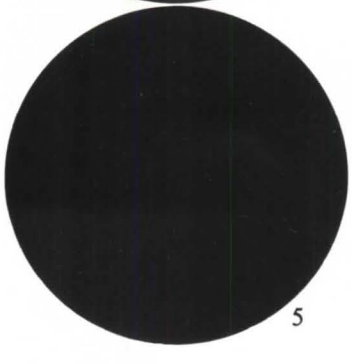
2



3



4



5

1 Duranodic 311S finish, *Light Bronze* on Anoclad® 11 Sheet (311E on Anoclad 11 Extrusions)

2 Duranodic 312S finish, *Medium Bronze* on Anoclad 11 Sheet (312E on Anoclad 11 Extrusions)

3 Duranodic 313S finish, *Dark Bronze* on Anoclad 11 Sheet (313E on Anoclad 11 Extrusions)

4 Duranodic 324S finish, *Medium Gray* on Anoclad 12 Sheet

5 Duranodic 335S finish, *Black* on Anoclad A13 Sheet (335E on Anoclad 13 Extrusions—315E on Anoclad 11 Extrusions is similar)

CHANGE FOR THE BETTER WITH ALCOA DURANODIC 300 FINISHES

ALCOA

More stile than rail



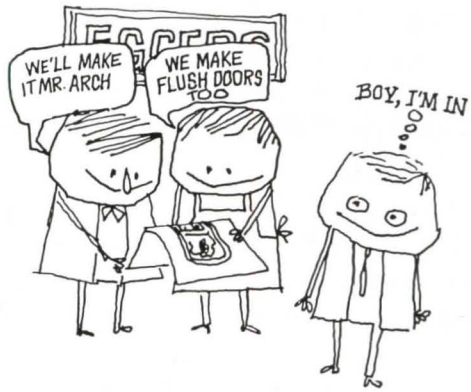














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If you can't turn it off ...screen it out

They did in this building near Mesa, Arizona.

Without blocking the view from inside.

Precast concrete panels support the glass screen which hangs about 2′ away from the building and 2′ off the ground.

The screen is ¼″-thick *Parallel-O-Grey*® plate glass. It dissipates about 40% of the solar heat at Mesa where temperatures sometimes reach 115° F.

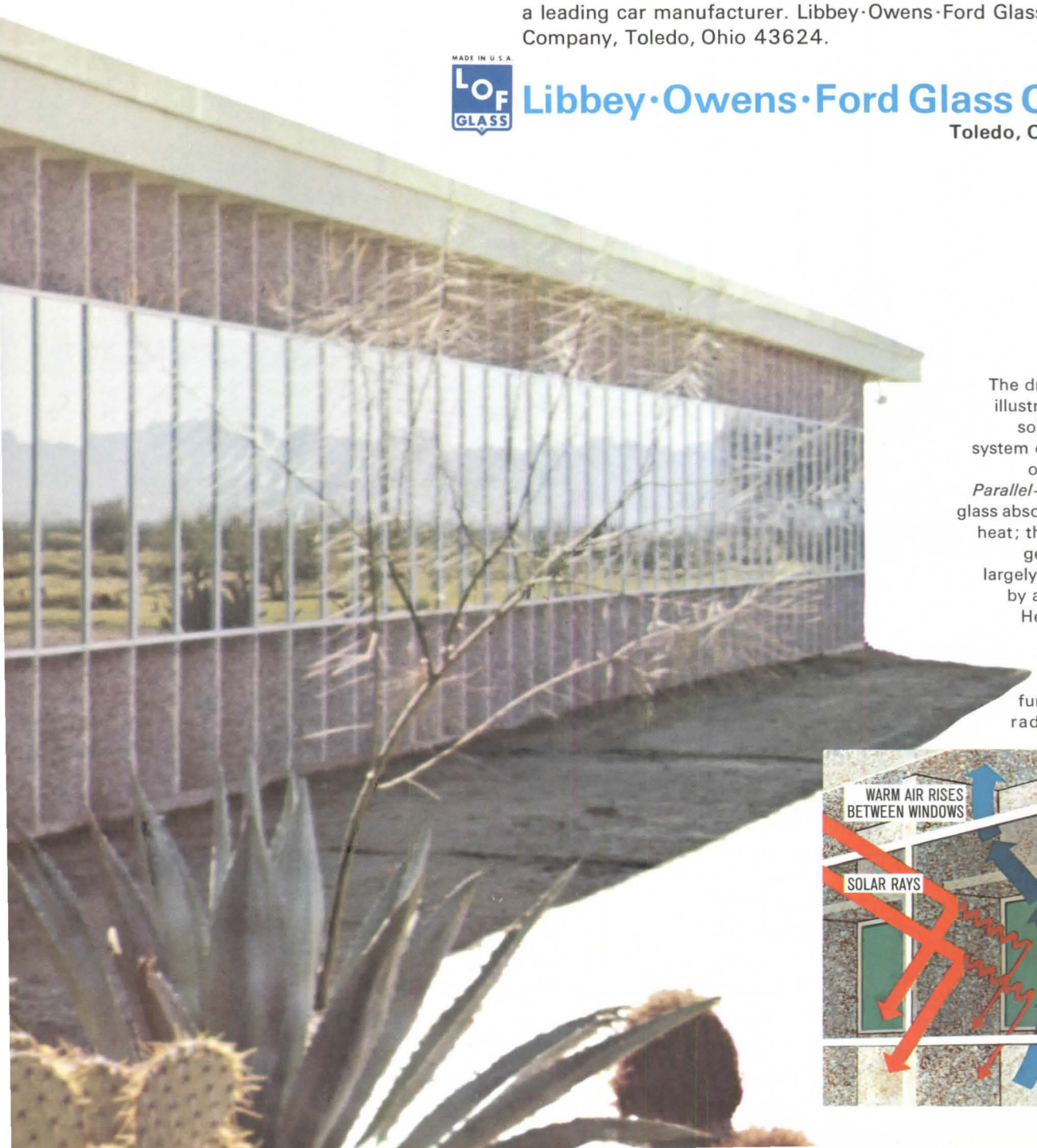
In the windows, themselves, is bluish-green L·O·F Heat Absorbing plate glass.

This combination of glass and concrete roof overhang protects the interior from approximately 80% of the desert's solar glare and heat.

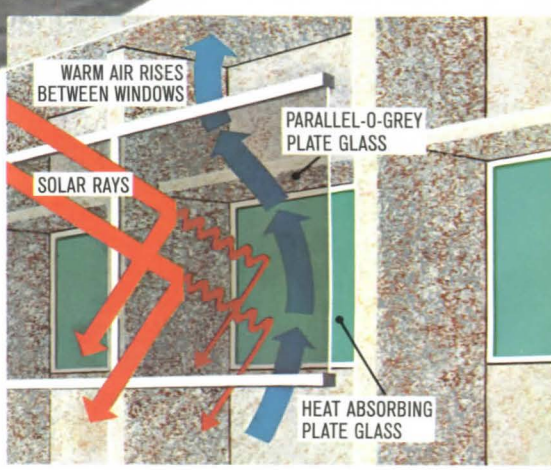
Architect William T. Baker of Mesa, with automotive engineers, designed this unique sun screen for the western elevation of a new administration building of a leading car manufacturer. Libbey·Owens·Ford Glass Company, Toledo, Ohio 43624.

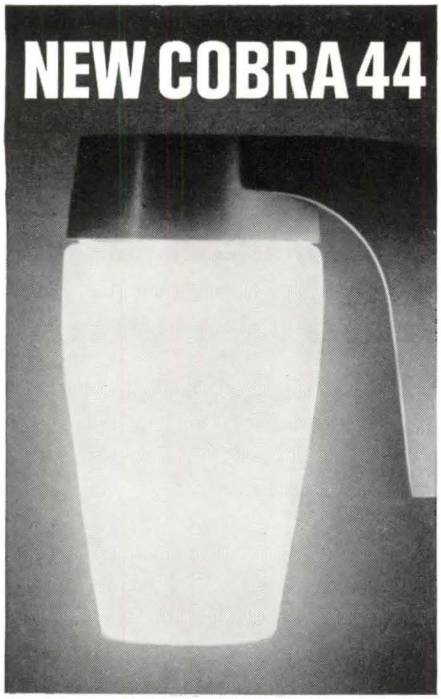
MADE IN U.S.A. LOF GLASS

Libbey·Owens·Ford Glass Co.
Toledo, Ohio

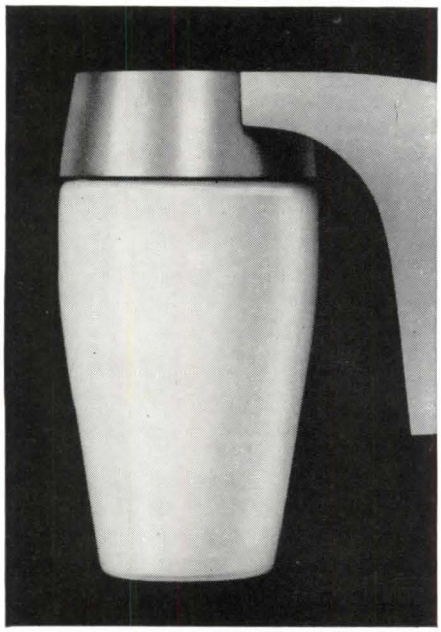


The drawing below illustrates how the solar protection system operates. The outer shield of *Parallel-O-Grey* plate glass absorbs some sun heat; the heat which gets through is largely carried away by air circulation. Heat Absorbing plate glass in the building's windows further excludes radiant energy.





INSIDE OR OUT...ON OR OFF



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Continued from page 24

fine a few limits so that we don't generalize on too broad a plane. In fact, it is very difficult indeed to make generalizations when you consider the vast theological differences between religions. There are obviously vast differences between Orthodox Judaism, which is still awaiting the Messiah, Roman Catholicism, which is Christ-centered, and Unitarianism, which accepts agnostics as members. What is symbolic for one group can have no meaning for the others, and what is essential for one is superfluous for the others. Although all religions seem to be undergoing some form of reexamination, this does not necessarily imply that their basic and essential natures are changing. In most cases, it is more a case of updating. This, then, is where I would part company with both the Editorial and the introductory comments.

As I see it, transferring worship from one place to another does not affect the nature of that worship; indeed, the Eucharist truly celebrated in the classroom is the same celebration in Ronchamp or at the Last Supper. I would agree that the ceremony, or the externals surrounding the Eucharistic sacrifice, is obviously different, but this is not what is important to the religion, but what is important, rather, to the architect. It is this distinction that is necessary in discussing the role of the architect and his influence on church architecture. I would never agree that the architect influences the essentials of the religion. If he does, he is no longer acting in his capacity as an architect.

Where an architect is greatly influential, however, is in the ceremony, or the form of the religious practice. He does not do this independent of an understanding of this religious practice; he does not basically change even this. He merely interprets the particular groups desires and needs and puts them into meaningful, up-to-date form. Interpreting and bringing out ideas already there, in a latent form, appears to me to be role of the architect. In order for his forms to be meaningful, they must represent his particular cultural period. This is why ecleticism in church architecture is so ridiculous. It no more represents the culture in which we are living than does any other outdated idea; it therefore loses any meaningful relation to present-day congregations. It serves as purely a sentimental reminder, a sometimes pleasant feeling of momentary comfort, like reading a fairy tale. Unfortunately, modern-day religion is not a comfortable hiding place but a vital, living challenge. It is the role of the architect to represent this challenge, both practically and symbolically.

If we define liturgy as the public form of worship, then I find little conflict between a church designed as an interpretation of the liturgy and one that takes into consideration the requirements of the churchmen and his congregation. To me, these are synonymous. If he truly interprets the liturgy, he is fulfilling the needs of these two groups, since the liturgy itself should reflect the needs and be representative of a particular cultural period. It is only when the liturgy (when thought of as external, applied ritualistic forms) becomes outdated and no longer meaningful to the time that this problem could present itself. It is at this point that the church should realize those outdated forms and begin a renewal. An architect can assist by giving his opinion on those forms. Let's not, however, give the architect the additional hat of a theologian. To give him one more title will only entice him to bigger and worse things.

JAMES E. BURLANGE
Lexington, Mass.

Toilet-Trained Architect

Dear Editor: Would you care to publish a reaction to your story "Architecture Swings Like A Pendulum Do."

I think it's the dearest article you've done all year—maybe all century, you silly, you—with that mad mad fun that those simply blooming boisterous fellows had with their fresh-sawn checkbooks and their surfer's pullovers and those clip-on suspenders.

I think it's so incredibly joyous that they're coming on like Mack trucks and that they've got tactile surprises going for them, too; as for me, I'm going out like for the toilet.

ROBERT A. LITTLE
Cleveland, Ohio

Ilursc Houses Sweep the Nation

Dear Editor: Architects who lack that one tiny ingredient—design ability—are said to hire designers to fill the gap. The designers, apparently, are recent architectural-school graduates who bring with them whatever style was hottest while they were being molded.

During the early 60's I saw Ilursc houses (Ilursc=inward-looking, upward-reaching shed cluster) sweep the schools. Now, right on schedule, they've swept the nation's offices.

Well, at least we'll have no trouble spotting mid-60's houses in the future.

MALCOLM B. WELLS
Cherry Hill, N. J.

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the charm of Victorian velvet in a new ceramic tile . . . the plush beauty . . . the glowing color and rich depth of velvet. *This* you'll find in Green Velour: one of 14 dramatic decorative tiles crafted in the Old World manner for Stylon's exclusive Designer Series. For installations requiring a sophisticated look...that must say prestige at the very first glance...Green Velour is perfect. Its bright glaze and matchless beauty are permanent. It never fades or discolors; requires almost no maintenance. By setting it vertically, horizontally or in patterns, a variety of effects can be achieved. Available in 8½" x 4¼" size. Use Green Velour to add elegance to commercial, institutional or residential interiors. To see other exciting patterns in the Stylon Designer Series, turn page.

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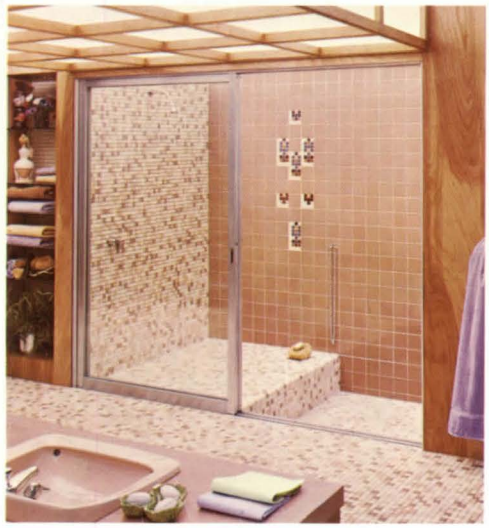
CAPRICE A fresh, light-hearted tile with a subtly feminine appeal. Makes a charming overall pattern in the traditional manner . . . or can be combined with plain white for contemporary decors. Size 4¼" x 8½".



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Designer Series by Stylon
a unique collection of ceramic tiles with a rare imported look

Searching for something distinctive in floor and wall coverings? Stylon's new Designer Series of decorative tile ends your search. Reflecting Old World artistry and craftsmanship, this remarkable collection of genuine ceramic tile offers durability, ease of maintenance and achieves unusual design effects. Here are two of the 14 dramatic styles available ranging from sparkling bright-glaze pavers to exotic wall tiles with unusually textured surfaces. They will fit your plans perfectly for foyers, restaurants, fireplaces, homes, apartment lobbies, churches or other institutional structures.





Stylon offers over 30 varieties of standard and decorative tiles

. . . for floors, walls and countertops. In the foyer at the left, for example, Stylon bright-glazed Candy Stripe wall tile with subtly fluted surface is combined with Stylon Vinyl Bond flooring, one-foot squares of genuine ceramic tiles permanently embedded in clear vinyl. The unique sunken tub blends sparkling bright-glazed tile with beautifully textured mosaics in harmonizing colors. Over 150 colors and blends in the full Stylon line present countless design possibilities for any room. Matching trim shapes available. For complete details mail coupon below.

Stylon CERAMIC TILE

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Member: The Producers' Council, Inc.

Please send me free the following: ☐ "Designer Series," 12 p.color brochure.
☐ "Architects' Guide," 24 p.color brochure.

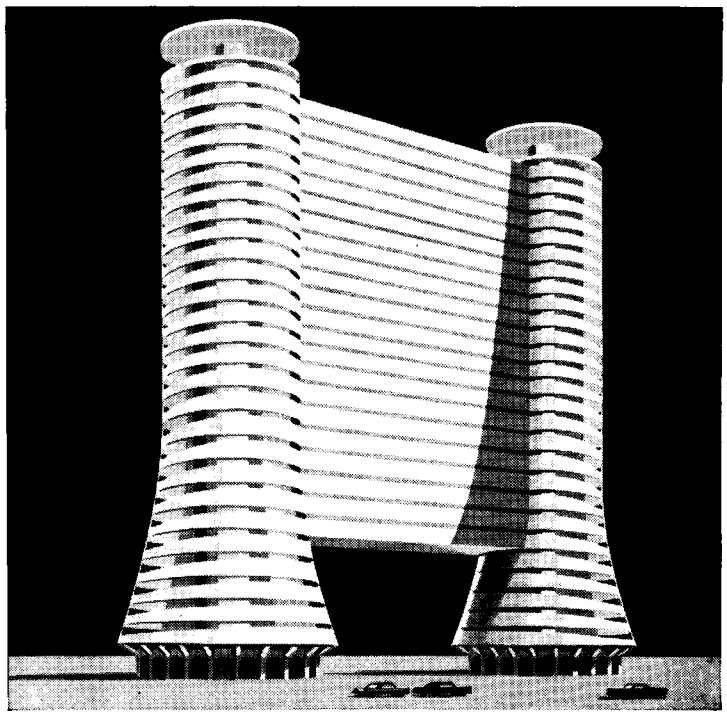
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A modern hospital needs modern communications: nurse-patient interphone, closed circuit TV, teletypewriter services, data transmission services.

These complex communication services are essential not only in hospitals but in all types of major buildings—plan for them in the blueprint stage and avoid costly alterations and unsightly wiring later.

Just call your Bell Telephone Business Office and ask for the Architects and Builders Service.

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and Associated Companies

For further information on communications planning,
see Sweet's Architectural File 33a/Be
and Sweet's Industrial Construction File 19f/Be.

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Expose it. Don't paint it.



Photographs above taken after 2 months of weathering.

It's Bethlehem's Weathering Steel: Mayari R



Let it weather. Naturally.





Photographs above taken after 12 months of weathering.

Nature wraps Weathering Steel in a maintenance-free protective coating . . . and provides a rich, earthy beauty in color and texture that lends itself to distinctive architecture.

The longer it weathers the richer this steel's deep-brown oxide coating becomes. And what a remarkable coating it is. Closely grained and tightly adherent, it builds up to about the same thickness as a coat of paint. It inhibits further corrosion of the steel. It heals its own wounds.

The full potential of this material can be realized only by careful design considerations. We will be happy to review these with you when you plan to use Weathering Steel. Simply call or write our nearest sales office.

BETHLEHEM STEEL
BETHLEHEM STEEL CORPORATION, BETHLEHEM, PA.

(Left Page) BRANCH BANK, CHESAPEAKE, VA., VIRGINIA NATIONAL BANK.
Architect: Oliver & Smith.
Engineer: Fraioli, Blum & Yesselman.
General Contractor: W. B. Meredith, II, Inc.
Roofing Contractor: Virginia Sheet Metal & Roofing Company of Norfolk, Inc.
Steel Fabricator: Globe Iron Construction Company, Inc.

(Right Page) FRENCH CREEK VALLEY ELEMENTARY SCHOOL,
Coventryville, Pa. Owen J. Roberts School District.
Architect: Wolf & Hahn. *Engineer:* Quentin Bowers.
General Contractor: H. C. Grau Co.
Steel Fabricator: W. H. McArdle & Son.

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Welton Becket and Associates, Architects & Engineers • California Metal Enameling Company, Enamelers

"Save the trees!"

That was architect Welton Becket's first order when commissioned to work on Century City, Aluminum Company of America's "City of Tomorrow." More than 1200 mature trees were carefully preserved and replanted along Century City's park-like malls and thoroughfares. The architects paid the same attention to the natural enduring beauty of building facades. This is why over 36,000 square feet of leaded porcelain enamel on aluminum has been specified for the Broadway Department Store as well as several other shops and some of the 34 buildings that will eventually stand on this 180-acre complex in Los Angeles.

Leaded porcelain enamel was chosen because it offers time-proven color steadfastness, along with porcelain's ease of maintenance. Yet it can be sawed, drilled and punched without fear of progressive spalling or rust disfiguration.

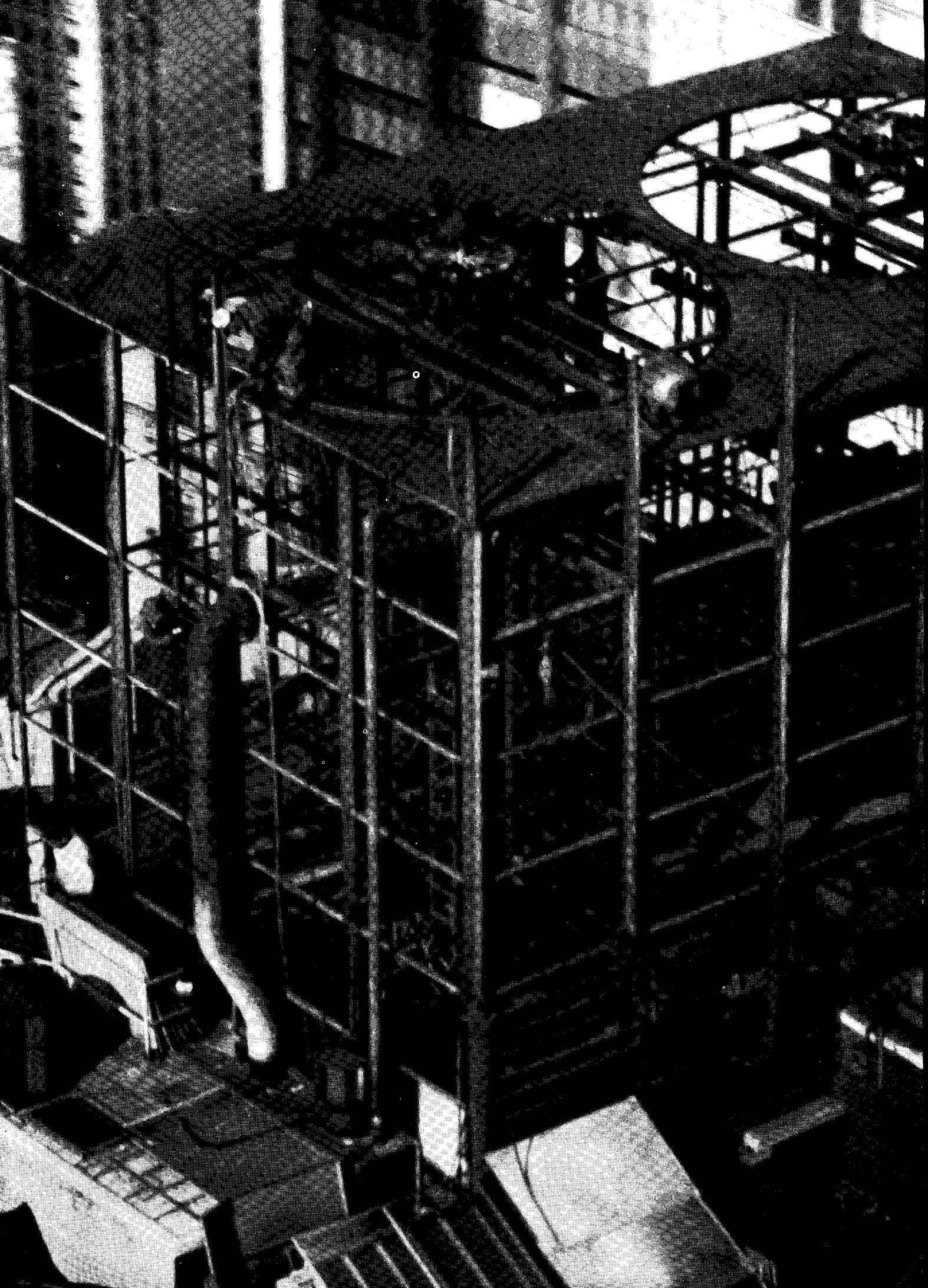
Tight specifications necessary to assure perfect customer satisfaction are available. Write Lead Industries Association, Inc., Dept. N-8, 292 Madison Avenue, New York, N.Y. 10017.

24

LEAD INDUSTRIES ASSOCIATION, INC.

Look Ahead with Lead

On Readers' Service Card, Circle No. 370





A four-pipe system
isn't always the answer.

Wouldn't you rather have a rooftop you could rent?

You can—with a G-E Zoneline heating/cooling system. It does everything a four-pipe system does. But it eliminates pipes, ductwork, compressors, cooling towers.

And that not only saves on first cost. It frees space, both inside and on your rooftop—for a pool (William Penn House, Philadelphia) or penthouse offices to increase income (Peoples Savings Bank, Bridgeport).

Other advantages with G-E Zoneline:

ROOM-BY-ROOM CONTROLS allow a tenant who is chilly to turn on the heat, even though everyone else has the air conditioning on.

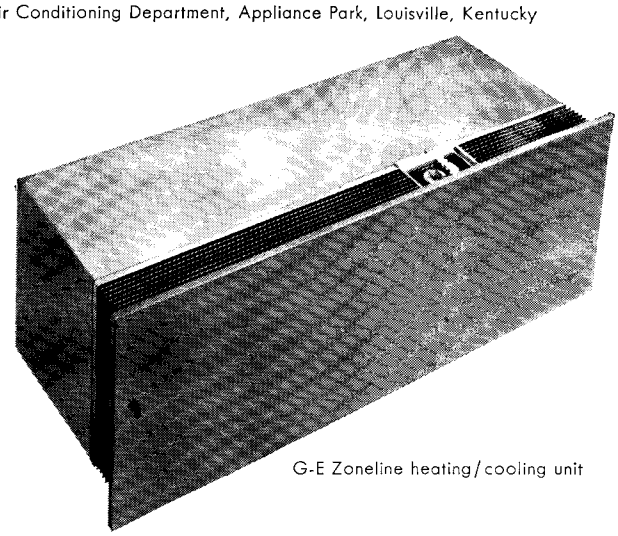
CHOICE OF GRILLEWORK is one you make. G-E Zoneline grille comes in two standard designs or can be treated architecturally to blend with building appearance.

INTERIOR FLEXIBILITY allows you to fit units over doors (Marina Towers, Chicago) or under window seats (Century House, Lincoln, Nebr.).

From motels to high-rise construction, Zoneline systems can make dramatic economies in space and first cost. Call your General Electric Zoneline Air Conditioning Representative for the facts.

GENERAL ELECTRIC

Air Conditioning Department, Appliance Park, Louisville, Kentucky



G-E Zoneline heating/cooling unit

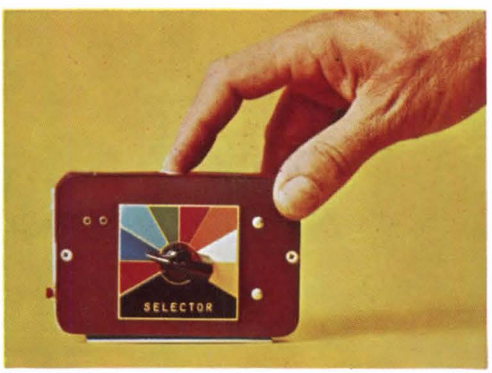
On Readers' Service Card, Circle No. 351





The men in front of The "OVERHEAD DOOR" also stand behind it.

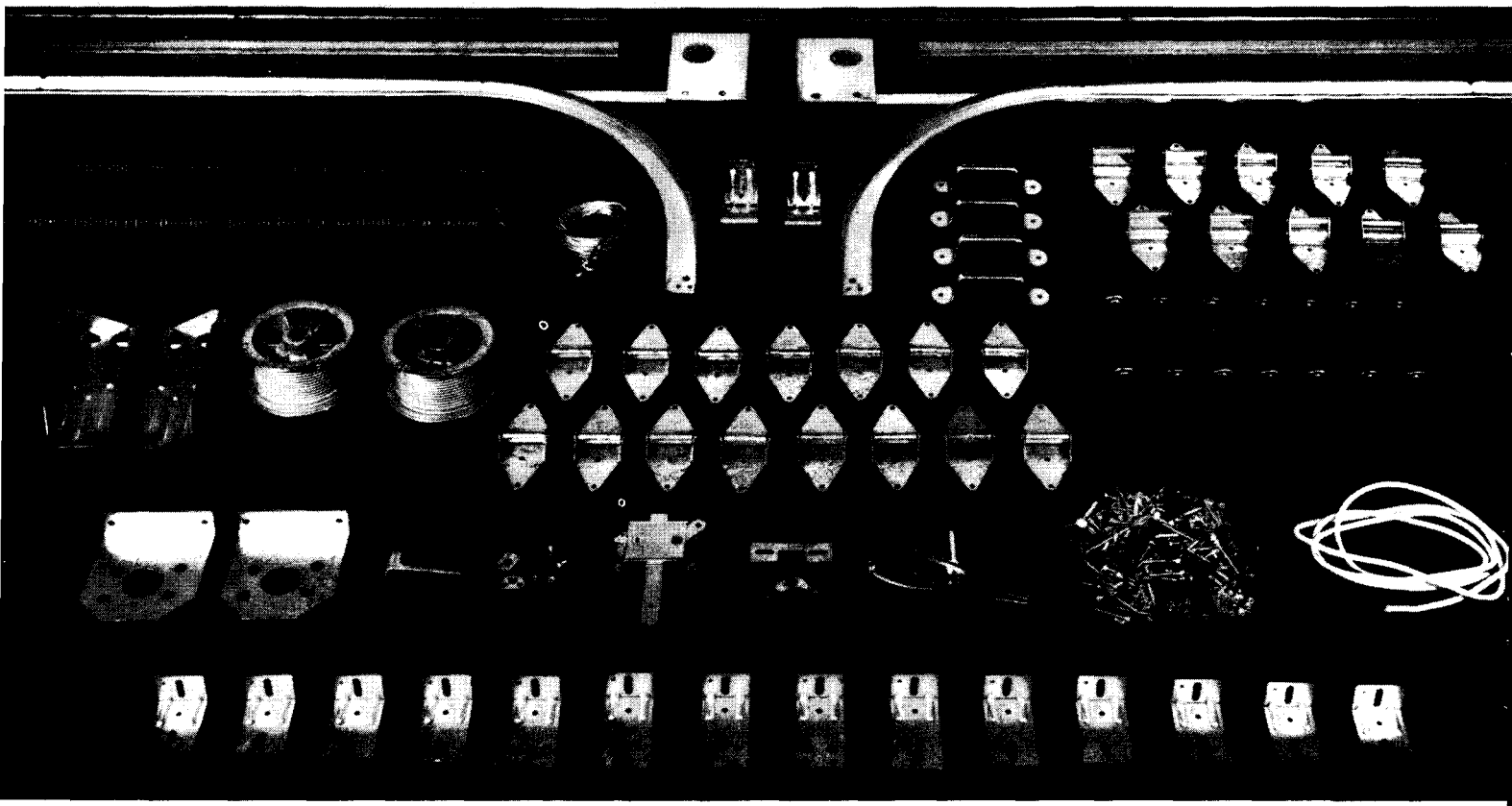
Specify The "OVERHEAD DOOR" and get much more than just a door.
Get the industry's widest choice of materials, styles, sizes and designs.
Get the dependability of the finest electric operator, matched to each individual door.
Get the experience of the company that originated the upward-acting door.
Get the confidence of the firm that's built more than eight million doors.
Get the assistance of our architectural consultants and engineers on any standard or special door requirements.
Get the service of the largest, finest, network of factory-trained door specialists.
Get the number of your minutes-near distributor listed under "OVERHEAD DOOR" in the white pages of your phone book.
Give him a call and get an expert. For more of what's behind The "OVERHEAD DOOR", turn the page.



Fully transistorized, portable transmitter with color-coded selector, controls up to 8 doors individually by radio control.

THE "OVERHEAD DOOR" TRADE MARK
SINCE *the original* 1921

OVERHEAD DOOR CORPORATION
General Offices: Dallas, Texas 75202
Manufacturers of The "OVERHEAD DOOR"
and electric operators for residential and commercial buildings



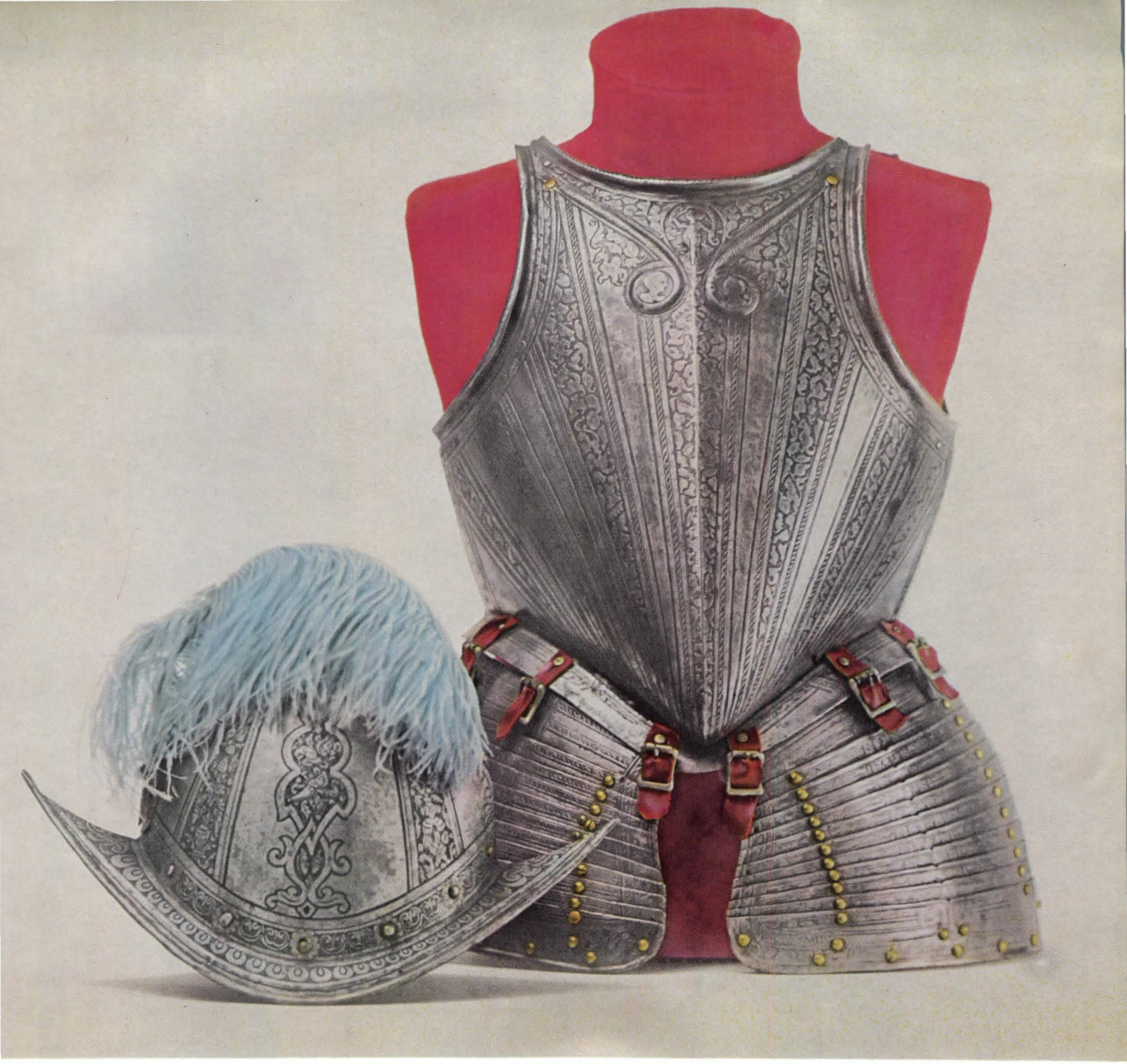
What's behind The "OVERHEAD DOOR"?

Counterbalance design for easier opening. Longer life because it's made of the finest materials. The confidence of a name known and trusted since 1921. A service-minded distributor within minutes of most any job site in the United States. The "OVERHEAD DOOR" and electric operator save your client money because they are installed and warranted by a factory-trained distributor of The "OVERHEAD DOOR." Specify the genuine and original; The "OVERHEAD DOOR." It's the door you can stand behind, because we do. For further details call your local distributor listed under "OVERHEAD DOOR" in the white pages of your phone book; or refer to our catalogue in Sweet's Architectural File. Another open and shut case for The "OVERHEAD DOOR."

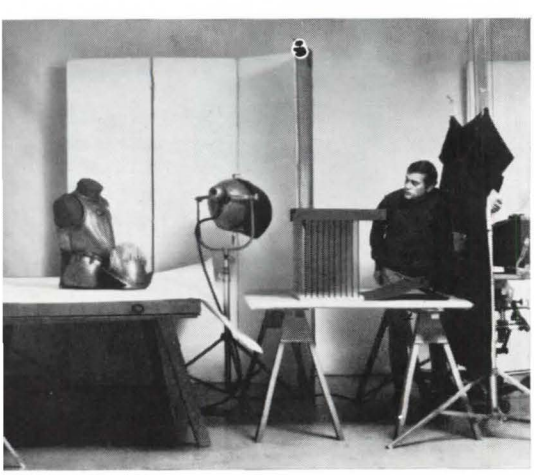
THE "OVERHEAD DOOR" TRADE MARK

the original

OVERHEAD DOOR CORPORATION • General Offices: Dallas, Texas 75202 • Manufacturers of The "OVERHEAD DOOR" and electric operators for residential and commercial buildings



You're looking at 16th-Century Italian men's fashion through 10 pieces of PPG Float Glass



Fine details will tell you it's of Italian origin, in spite of its Conquistador look. You can see every detail as though there were nothing between it and the camera. That's the fantastic clarity of PPG Float — the new glass from Pittsburgh Plate Glass Company.

It's made by floating liquid glass on a bath of molten metal. Hence the name — and the unusual clarity.

PPG Float Glass is available now. For specification data contact your PPG Architectural Representative or write: Pittsburgh Plate Glass Company, One Gateway Center, Pittsburgh, Pennsylvania 15222.

PPG makes the glass that makes the difference

Left: This is how the photograph of the morion helmet and breastplate was taken through 10 pieces of PPG Float Glass. From the Robert Abels Collection.

On Readers' Service Card, Circle No. 388



Reynolds Metals Company does not manufacture fencing, but our engineers and designers know aluminum. They work with architects and manufacturers to make the most of aluminum's capabilities in both function and design.

Summit Mall, Akron, Ohio.
Edward J. DeBartolo, Owner-Developer.

Commercial Privacy Screening doesn't have to be dull!



New Reynolds Aluminum area screening system

Simplicity is the beauty of this new area screening system that you see here... designed in Reynolds Aluminum and natural redwood. Pre-painted aluminum... or other weather-resistant material... can also be used for the panels. A single aluminum extrusion serves in duplicate to form a post with built-in slots for the wood panel. Units can be either shop or field-assembled.

This "beautification" fencing system suits almost any architectural design plan. Perfect for a landscaping background, a shield for service areas and a frame for property boundaries. It may be installed to conform to gentle curves as well as to straight lines and sharp turns. In heights up to 10'. Write for literature. Dept. PA-8. Reynolds Metals Company, Richmond, Va. 23218.

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(THE RED SKELTON HOUR returns September 13)

REYNOLDS
where new ideas take shape in
ALUMINUM

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Versatile aluminum fencing and area screening give architects design flexibility—meet every need.

Panel-on-panel privacy fence.



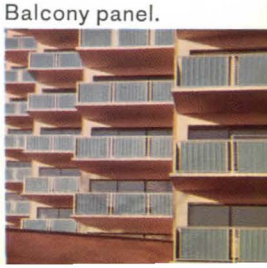
Open picket.



Traditional chain-link.



Balcony panel.



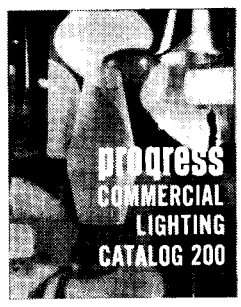
Progress lighting meets or exceeds your specifications... at sensible prices.

Why not save time and trouble by making them your first choice?

Sooner or later you'll find you can't do better.

That's progress!

If the specs say "Progress or equal," you can stop right there! No one equals Progress quality at Progress prices. And the wide range of fixtures can be appreciated only by someone who knows the Progress residential catalog. In its Commercial Lighting Catalog 200, Progress selects just the fixtures you need for your commercial work, and shows them in full color, with exact dimensions and convenient rapid estimate illumination charts.

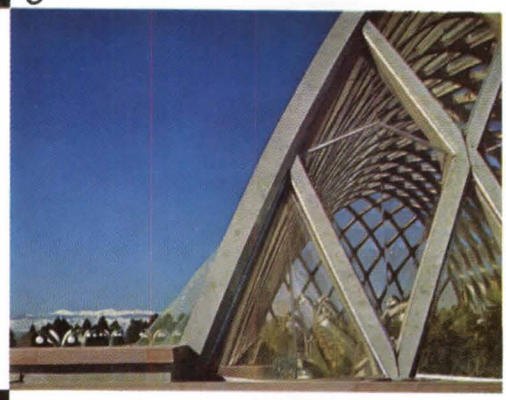


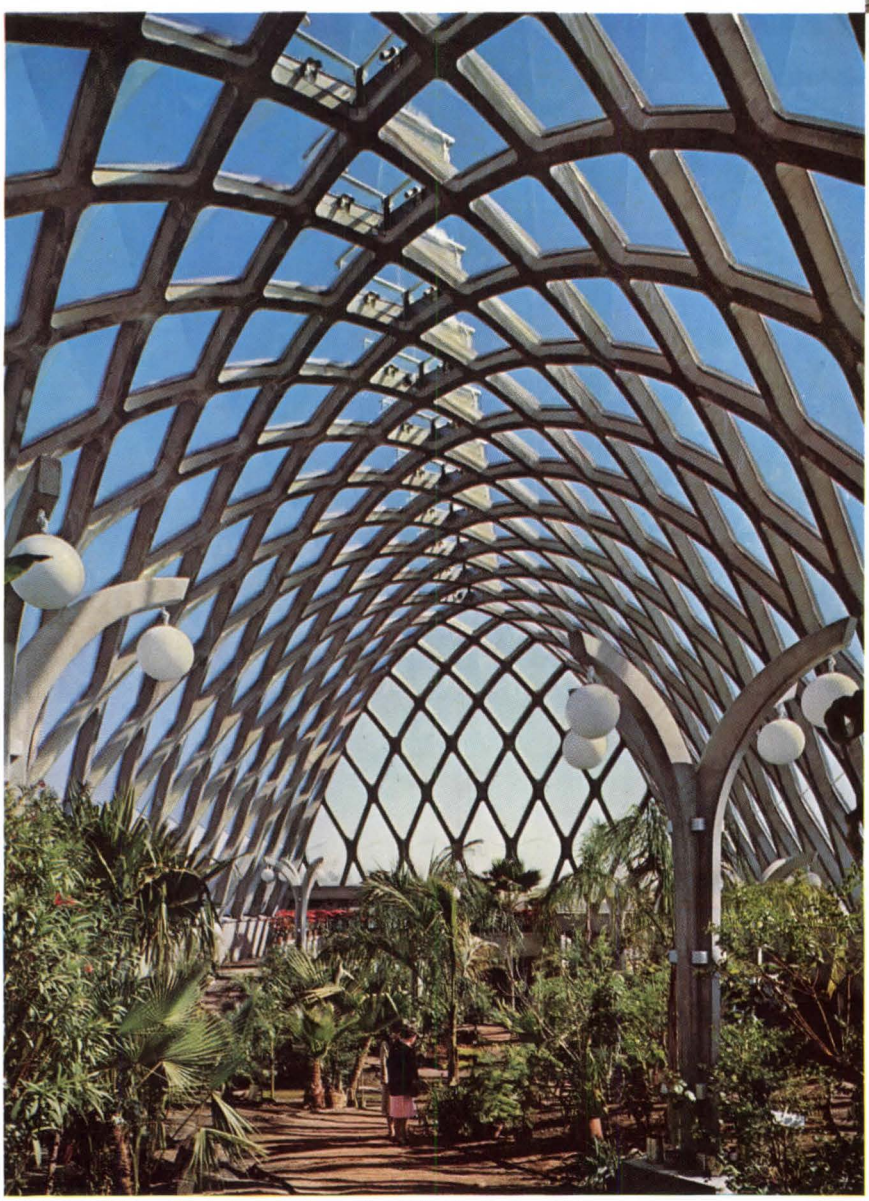
Let us send you more information on this Progress line, and a copy of the catalog. It may shed an entirely new light on the meaning of "or equal."

Dept. DC, PROGRESS MANUFACTURING CO., INC., Box 7798, Phila., Penna. 19104



Tropical luxuriance in Denver . . . under an enclosure of PLEXIGLAS®





Architects: Victor Hornbein and Edward D. White, Jr., Denver, Colo.

Arching over an area of 11,500 square feet, this graceful enclosure glazed with PLEXIGLAS acrylic plastic provides a spectacular setting for tropical plants at the Denver Botanic Gardens. In addition to providing a natural environment for the display of exotic vegetation, the crystal-clear PLEXIGLAS lets in ample sunlight to sustain plant growth.

For this enclosure, large panels of PLEXIGLAS were formed to pyramidal shapes to give the building a dramatic appearance and increase the load-bearing capacity of the glazing. The high impact resistance of PLEXIGLAS minimizes breakage problems and provides safety overhead.

In addition to clear transparent sheets, PLEXIGLAS is available in a broad range of transparent tints to meet varying requirements for solar heat and glare control in dome structures. The color stability and resistance to weathering of PLEXIGLAS has been established through more than 20 years of exterior use.

For more information write for our brochure, "Natural Light Through Domes and Arches of PLEXIGLAS"

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PHILADELPHIA, PENNSYLVANIA 19105



Ronan & Kunzl's HYDRA-SWING — the overhead operator concealed in a standard 1-3/4" x 4" header.

We're not as widely known as some . . . so (like Avis) we have to try a little harder.

If you're looking for a reliable nationwide source for better quality door controls — Ronan & Kunzl has produced highly practical, completely dependable operators for almost two decades . . . with established dealers and service throughout the country.

Look us up in Sweet's or write for literature.

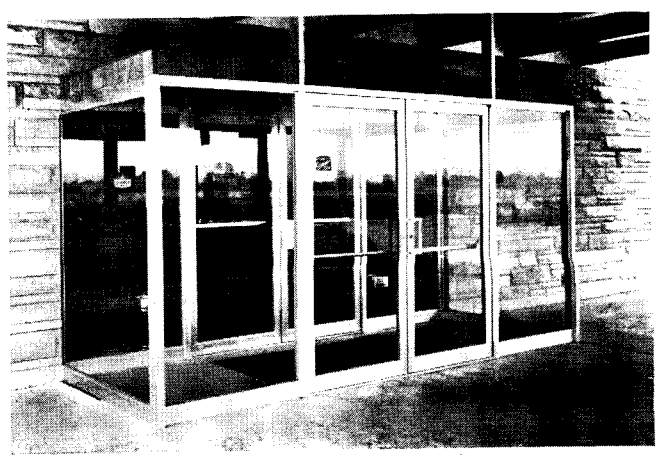
FINE DOOR CONTROLS SINCE 1947

RONAN & KUNZL, INC.

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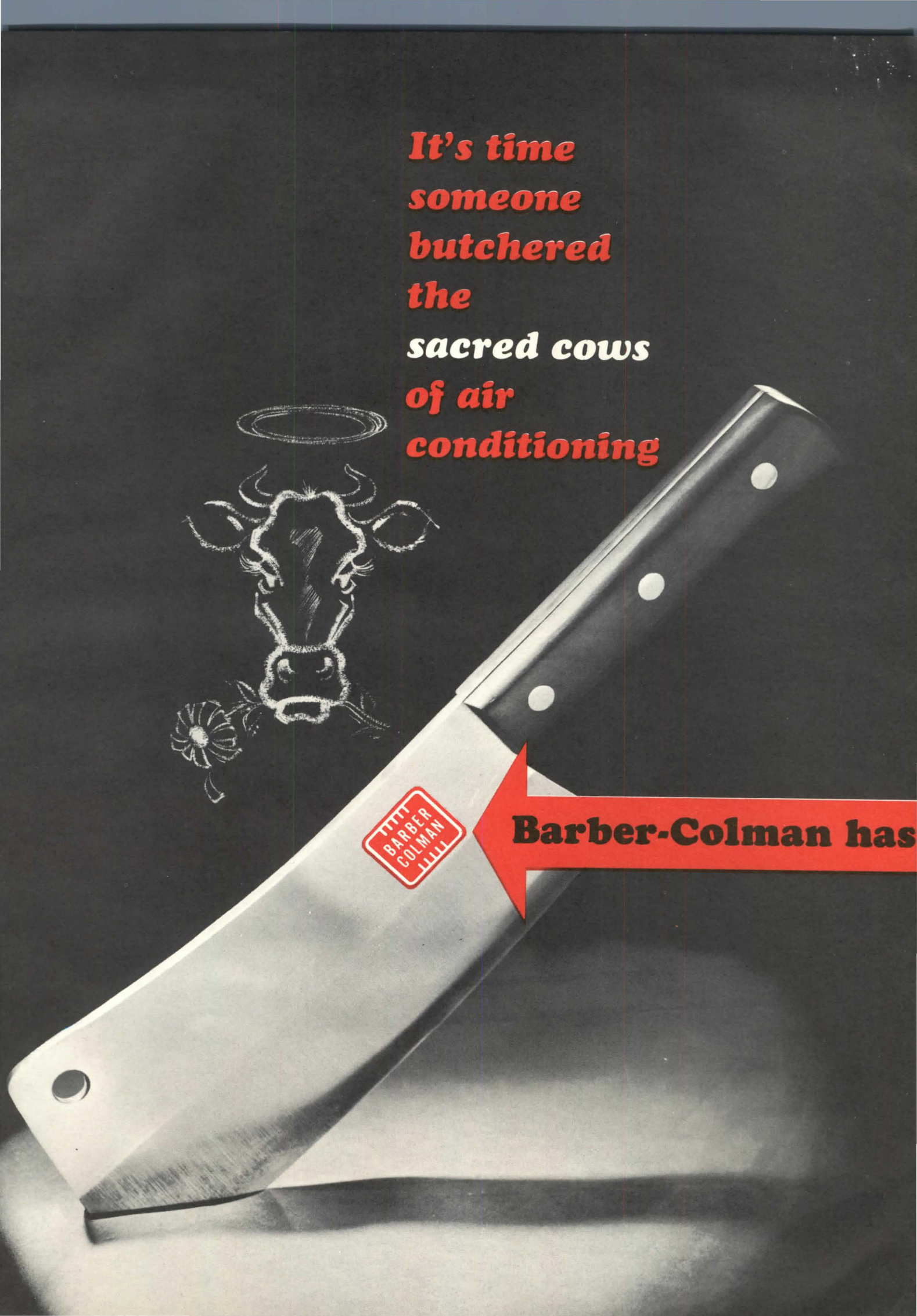
HYDRA-SLIDE — automatic control for Sliding Doors



Concealed Overhead Door Closer

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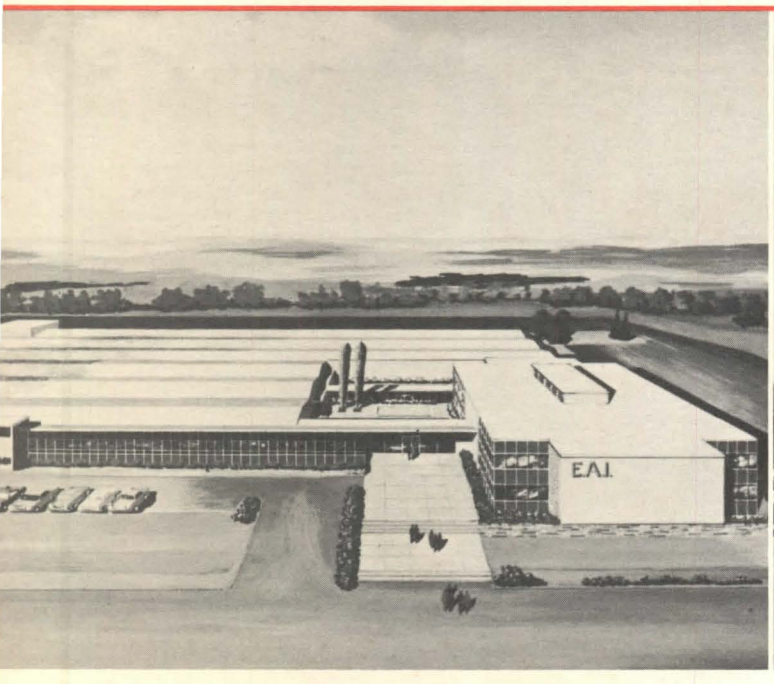

It's time someone butchered the sacred cows of air conditioning
BARBER COLMAN
Barber-Colman has



990 Grove Building; Evanston, Illinois
. . . **Barancik, Conte & Associates**



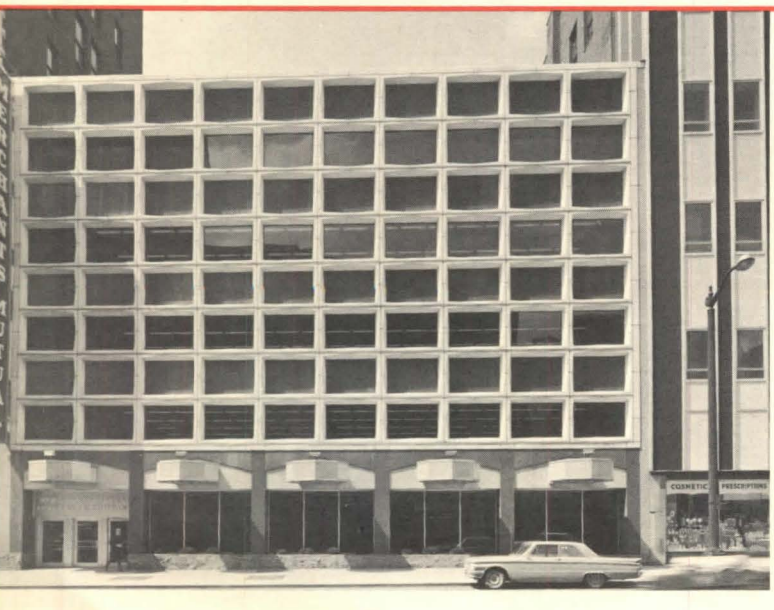
First National Bank Building; Decatur, Georgia
. . . **Locatell, Incorporated**



Electronic Associates, Incorporated; Long Branch, New Jersey
. . . **Bernard Kellenyi**



Bryn Mawr Executive Mall; Chicago, Illinois
. . . **Del Bianco Associates**



Merchant s Mutual Building; Buffalo, New York
. . . **James & Meadows & Howard**

. . . and many others, including:

Department of Water & Power; Los Angeles, California
. . . **Albert C. Martin & Associates**

Public Health Building; San Jose, California
. . . **Wilfred E. Blessing**

Radiology Research & Service Building; Memphis, Tennessee
. . . **Allen & Hoshall**

Marquam Plaza; Portland, Oregon
. . . **Hollis, Johnson & Koch**

Physicians Service Building; San Francisco, California
. . . **Albert F. Roller**

Friden Calculator; San Leandro, California
. . . **Paul James Houston**

General Telephone Company of Pennsylvania; Erie, Pennsylvania
. . . **Hallgren, Restifo & Loop**

Grove Park Elementary School; Atlanta, Georgia
. . . **Finch, Alexander, Barnes, Rothschild & Paschal**

For these buildings, the costly sacred cows are dead

In just two years, Heat-of-Light® has moved from feasibility to fact.



"Every building needs a boiler"

Nonsense!

This equipment room has no boiler. In its place is a centrifugal chiller. The Heat-of-Light system permits conditioning with the heat that's already in the building—heat generated by people, equipment, lights.

That's what our Heat-of-Light system is all about . . . it puts "waste" heat to work for you, warms exterior zones to offset building heat losses. You realize major savings in the cost of heating and air conditioning.

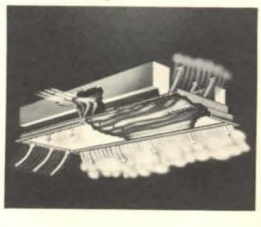


"Automation is only for BIG buildings"

Balderdash!

Automation is for any building that needs it. Office buildings. Hospitals. Schools.

Barber-Colman provides only the automation you need. From simple, centralized control functions like temperature indication and adjustment . . . and start-stop control of mechanical equipment . . . to time programming of system operation . . . all on one control panel. Reduce manpower requirements and lower operating costs.



"Heat from light is air conditioning load"

Ancient History!

It's only a load if it gets into the controlled zone. With a Barber-Colman Heat-of-Light system, it is removed . . . and used. Used to temper conditioned air. Used to heat at the building perimeter.

The environmental system design and installation are simplified. Less insulation is required. Costly hot air ducts, reheat coils, and piping are eliminated. Heat-of-Light is practical almost everywhere . . . use it.



"Room thermostats belong on the wall"

Ridiculous!

Walls are for clocks, and pictures, and privacy, and many other things. They are not for thermostats. In this attractive board room, the thermostat is concealed inside the light/air diffuser . . . in a moving airstream, where it belongs. Here it responds 15 times faster than a wall thermostat . . . temperature control is more uniform and accurate because changes are sensed and acted upon at once.

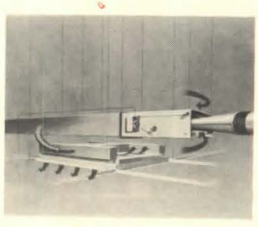


"All air outlets clutter and intrude"

Baloney!

In this clean, functional office, the integrated Heat-of-Light system lights . . . diffuses air . . . returns air . . . extracts heat . . . warms exterior zones. The outlets are practically invisible.

Barber-Colman diffusers blend architecturally. They don't intrude. And, if you have a unique requirement, we'll even design units just for you. Ask us.



"Air conditioning systems steal usable space"

Says Who!

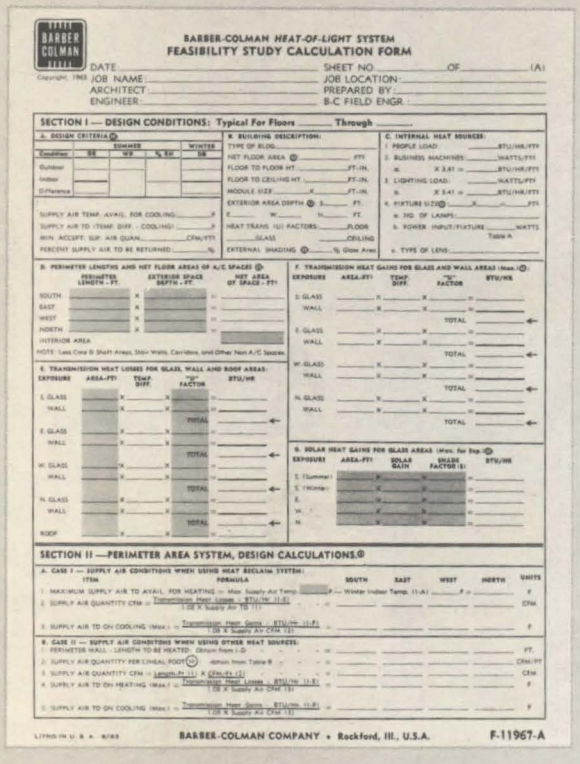
The Barber-Colman Heat-of-Light system requires a single high-velocity duct. Hot ducts, reheat coils, and piping are eliminated. So you get the most possible air conditioning in the least possible space.

And there are other unique advantages to our system. One is its economical cost. We would like to give you details on the others. Call us.

BARBER-COLMAN COMPANY

. . . where originality works for you

Now...
take the guesswork out of air conditioning



BARBER-COLMAN *HEAT-OF-LIGHT* SYSTEM
FEASIBILITY STUDY CALCULATION FORM

DATE: SHEET NO. OF (A)
JOB NAME: JOB LOCATION:
ARCHITECT: PREPARED BY:
ENGINEER: B-C FIELD ENGR.:

SECTION I — DESIGN CONDITIONS: Typical For Floors Through

A. DESIGN CRITERIA ⓐ — B. BUILDING DESCRIPTION: — C. INTERNAL HEAT SOURCES:

D. PERIMETER LENGTHS AND NET FLOOR AREAS OF A/C SPACES ⓑ

E. TRANSMISSION HEAT LOSSES FOR GLASS, WALL AND ROOF AREAS:

F. TRANSMISSION HEAT GAINS FOR GLASS AND WALL AREAS (Heat Gain) ⓒ

G. SOLAR HEAT GAINS FOR GLASS AREAS (Heat Gain for Sep. ⓒ)

SECTION II — PERIMETER AREA SYSTEM, DESIGN CALCULATIONS ⓓ

A. CASE I — SUPPLY AIR CONDITIONS WHEN USING HEAT RECLAIM SYSTEM:

B. CASE II — SUPPLY AIR CONDITIONS WHEN USING OTHER HEAT SOURCES:

LITHO IN U. S. A. 8/63 — BARBER-COLMAN COMPANY • Rockford, Ill., U.S.A. — F-11967-A

this simplified feasibility form...



plus these people and their computer... help you determine how the Heat-of-Light system can best be adapted to your particular building

"It's time someone devised an accurate way to evaluate an air conditioning system before it's installed"

WE DID!

Two years ago. Since then, we have done several hundred feasibility studies . . . the results of a few are shown on the preceding pages. One result not shown is our improved and simplified feasibility study form . . . and the increased expertise of our design and computer people. Use this knowledge.

Here's what you get. An accurate evaluation of the Heat-of-Light system for your building . . . quickly and with no obligation. The computer impersonally studies each floor and evaluates the multitude of factors affecting an environmental system. It then calculates design parameters . . . like proper air temperatures for perimeter air systems . . . number of light fixtures required . . . the supply air quantity and temperature for interior areas . . . and primary air quantities.

You, like many of our customers and prospects, will find this service invaluable. This is all it involves: (1) the one-page feasibility study; (2) a brief discussion between one of our field men and your design engineer; (3) a few minutes' work for our computer.

Want more information? Write us.

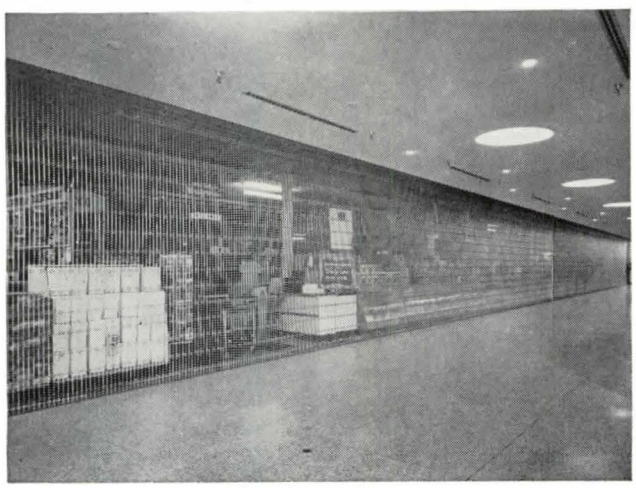
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ROCKFORD, ILLINOIS
. . . where originality works for you

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Weston, Ontario

BARBER COLMAN

consider the versatility that COOKSON side coiling grilles contribute to any structure

At Night: Protected



By Day: Unrestricted

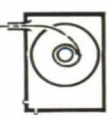


These two Cookson Side-Coiling Grilles close-off a full 200 feet of store-front.

In the closed position (left) these grilles provide effective security, because they are fabricated from steel rods and links that are strong and durable.

Ready for business (right) the grilles are coiled into compact enclosure boxes to leave the entire store-front fully open for freedom of entrance and vision. Retailers value highly this maximum exposure for product display.

Cookson Grilles—Rolling or Side-Coiling—offer a practical and decorative answer to many closure problems. For concessions, store-fronts, hallways, stairways, courtyards, driveways or garage entrances, the clean lines blend attractively with contemporary design while providing effective protection. Write today for Bulletin 6501, or see us in Sweet's.



When not in use, Cookson Side Coiling Grilles "disappear" into compact enclosures.

COOKSON®

"Best Way To Close An Opening"

THE COOKSON COMPANY

700 PENNSYLVANIA AVE., SAN FRANCISCO, CALIFORNIA 94107

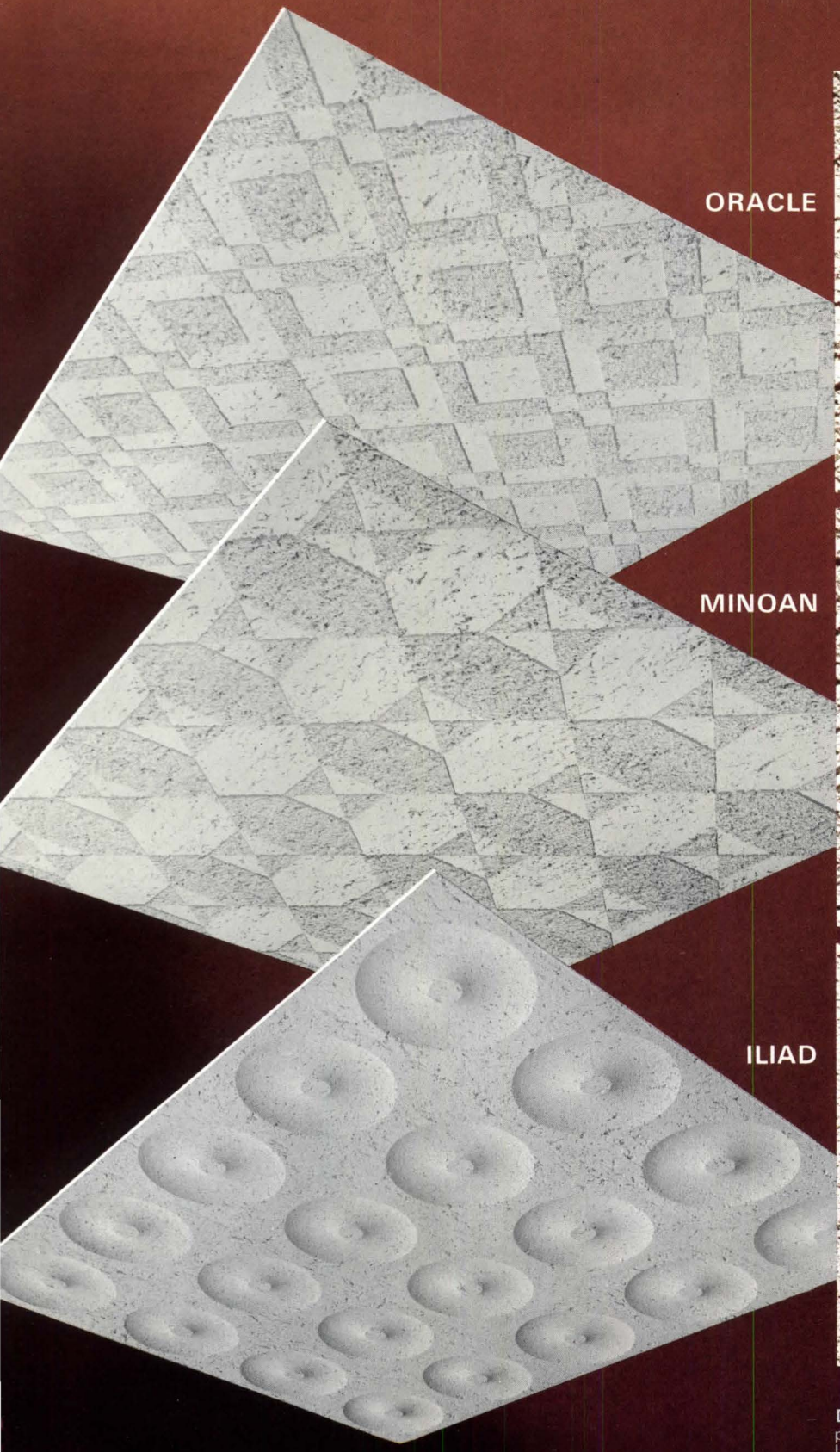
From the glory that was Greece

SCULPTURED CLASSICS

of bold, new beauty.

The deep-hewn artistry of Greek architecture has been recaptured in new Sculptured Classic mineral fiber acoustical ceiling tiles by Celotex. Bold textures. Dramatic designs. A new sense of elegance . . . a brilliant new dimension for the special interior that demands to be different. You really have to see the complete line of Sculptured Classics; styles inspired by architectural history. There are striking patterns and textures for every situation, from the most formal to the most casual . . . for the most beautiful of interiors.





ORACLE



MINOAN



ILIAD



DESIGNERS' DELIGHT! Sculptered Classics are perfect for ceiling accents—lanes, islands, original layouts. Ideal when used in conjunction with other Celotex Mineral Fiber tile having same surface texture. Or use for entire ceiling in executive offices, reception areas, wherever a look of special elegance is desired. Size 12" x 12", butt kerfed edges.

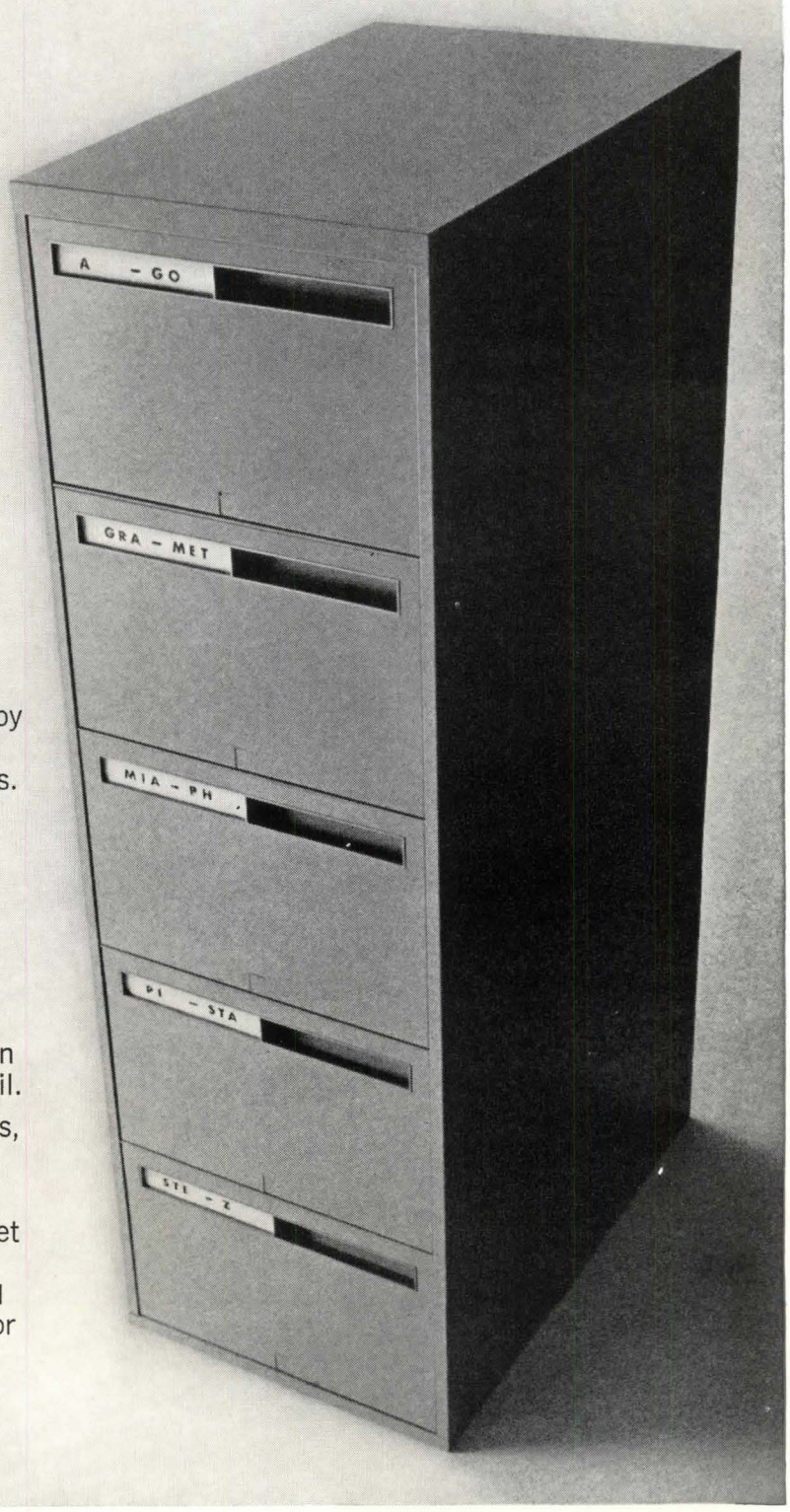
Write today for samples and specifications or call your local Acousti-Celotex Consultant-Distributor. Look in the Yellow Pages under "Acoustical".

ACOUSTI-
CELOTEX
REG. U.S. PAT. OFF.
PRODUCTS

THE CELOTEX CORPORATION • TAMPA, FLORIDA 33602

Subsidiary of Jim Walter Corporation

Our file cabinet has a nice clean face.



Note the drawer handles.
There aren't any.

No thumb latches that stick out, either. Or old fashioned label holders. Or knobby guide rods. Or any of those funny little gadgets found outside ordinary cabinets.

Nothing shows on our 500 file cabinet except a clean, contemporary look.

Take the recessed combination label holder and drawer pull. First of its kind. On one side is the label holder. Big enough to list the entire alphabet. On the other is the recessed pull. With just a couple of finger-tips your secretary can open the drawer. Without breaking a nail.

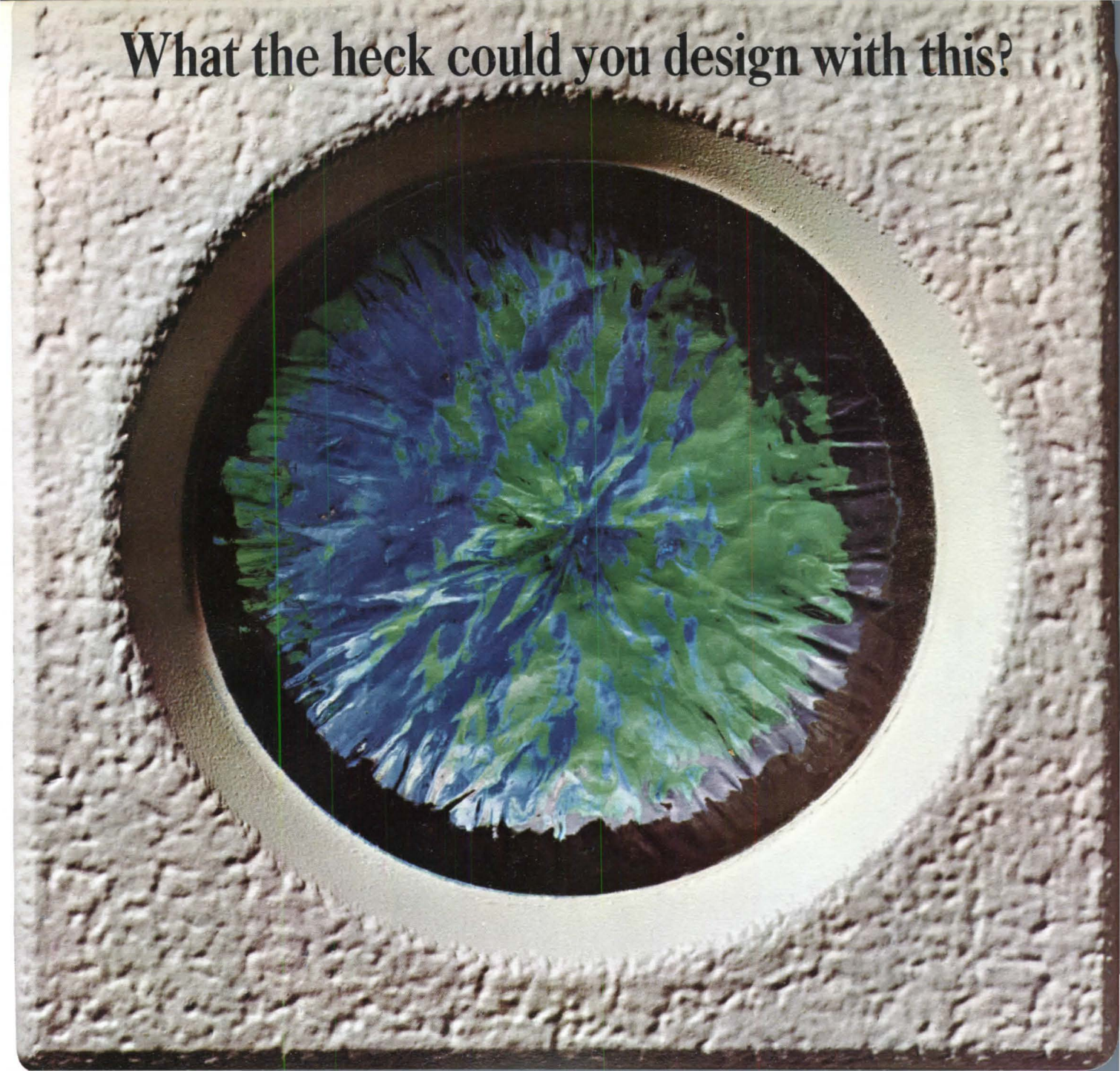
Our 500 file comes in 4 different heights, too. From 2-drawer to 5-drawer. All in letter or legal size width.

Everything about our clean faced cabinet is made the way office furniture ought to be. Furniture that looks beautiful and works beautifully—a solid investment for the management who pays for it.

ART METAL INC
JAMESTOWN, NEW YORK

◀ On Readers' Service Card, Circle No. 334

What the heck could you design with this?



Or with any of these glass blocks.

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P/A NEWS REPORT

Progressive Architecture's Monthly Digest of Buildings, Projects, People and Products *August 1966*

GOOD USE FOR ROBIE

Announcement was made in mid-July by Adlai E. Stevenson, III, concerning the establishment of a memorial organization to his father, the late Ambassador to the United Nations, for the study of international problems. The home of the Adlai E. Stevenson Institute of International Affairs will be Frank Lloyd Wright's Robie House, owned by the University of Chicago. This is a singularly appropriate use for the famous landmark. We hope that indications that the tenancy might be temporary (until permanent quarters are built) will prove false.

CINCINNATI GETS A STADIUM



Photo: Lane Brothers

CINCINNATI, OHIO. Cincinnati, world leader in the production of soap and playing cards, is never far behind the times, and now with news of a new stadium going up, she is fully in step. Shown here are (left to right in photo) James H. Finch, of Finch, Alexander, Barnes, Rothschild & Paschal; and George T. Heery, of Heery & Heery, whose Atlanta firms are collaborating on the job. Ground-breaking is scheduled for the spring of 1967, with completion expected in August of 1968. Estimated cost of the entire project, including some needed redevelopment of the Cincinnati riverfront, is $35 million.

CAPITOL PUNISHMENT, OR, ALL'S NOT QUIET ON THE WESTERN FRONT



Photo: Robert Lautman

WASHINGTON, D.C. Ever since 1955, when Congress set up the Commission for the Extension of the U.S. Capitol, work on that historic structure has gone on under a fusilade of wild protest. (See this month's report on the AIA convention; also, see the WASHINGTON/FINANCIAL column.) In one of his rare floor speeches in the late 50's, the esteemed architectural savant Sam Rayburn pointed up the controversy. It concerned "saving stones or history, tradition and art," he remarked. "We can save the history and the art; we can't save the stones — they have already deteriorated." It turns out that little of the history or art will be saved either.

The plan for the extension of the West Front dates back to 1904, when the firm of Carrere & Hastings was asked to prepare a report on how more space could be gained in the Capitol. Their proposal for the East Front has, of course, been carried out. And now their West Front proposal is under way. Essentially, the plan approved by the Commission is the one Carrere and Hastings submitted. It called for an addition of 139,000 sq ft, for 55 offices; 8 committee rooms with anterooms; 2 document rooms; 7 storage rooms; added space for the Senate library; added restaurant space; 2 elevators, and a pedestrian escalator. Cost of the extension, as Architect of the Capitol J. George Stewart estimated it back in 1958, was $18,200,000. This has now ballooned to an estimated $34 million, adding 4.4 acres of space. Cost will be a staggering $178 per sq ft.

The Capitol has undergone almost constant change since George Washington laid the cornerstone on September 18, 1793. Imperiled now, besides the sense of history, are the magnificent West Front steps by Frederick Law Olmsted, which guide both the eye and the foot up to the building. Instead, two narrow bands of steps would flank a walled pedestal, which would make the Capitol seem to rise from the base of another building, à la Rayburn Building of low esteem.

Cost alone should be enough to make the proponents of expansion think again. But, on almost any grounds, the continuing flatulence of the Capitol, like the growth of an already overweight girl, is certainly worth curbing.

STADIUM GROUND-BREAKING IN PITTSBURGH PUT OFF

PITTSBURGH, PA. Construction of the 52,000-seat Pittsburgh stadium (see p. 74, APRIL 1966 P/A) has been delayed by high bids. Low bid for total construction was $38,240,410, more than $12 million higher than expected. "We couldn't consider building the stadium at this price," Burrell Cohen, executive director of the Stadium Authority, is quoted as saying. One source places the blame for the high bids on the current condition of the construction market. Just what will happen to the Deeter & Ritchey–Baker-Osborne designed stadium is uncertain. The design may have to be reworked. Or new bids may be called for. Whatever happens, the Pirates will not have a new home by 1968, as originally planned.

SWEET OLD BOB: THE AIA IN MARLBORO COUNTRY

DENVER, COLO. "I urge you to vote for Robert L. Durham, SOB," said the speaker, nominating Robert L. Durham of Seattle for first vice-president of the AIA. "SOB doesn't mean what it does when Harry Truman says it," the speaker explained. "It means Sweet Old Bob." Whether or not that swung the votes, Durham was elected by the convention and is president-elect for the coming year.

This year's convention, as everyone knows, was held in Denver — in the heart of cow country. But, as one wag was bound to point out, there was more bull than cow in Denver when the AIA gathered there the last week in June for the 98th running of its annual convention. With 2662 persons registered, the convention was one of the five largest gatherings the Institute has had. The host chapter saw to it that all were shown a generous amount of the beauties of Colorado — both natural and man-made — and that they were thoroughly entertained while doing it. A day at the Air Force Academy and an evening in Central City, a one-time Colorado mining town, were just part of the program. Both the sightseeing and the logistics of getting the conferees there and back,

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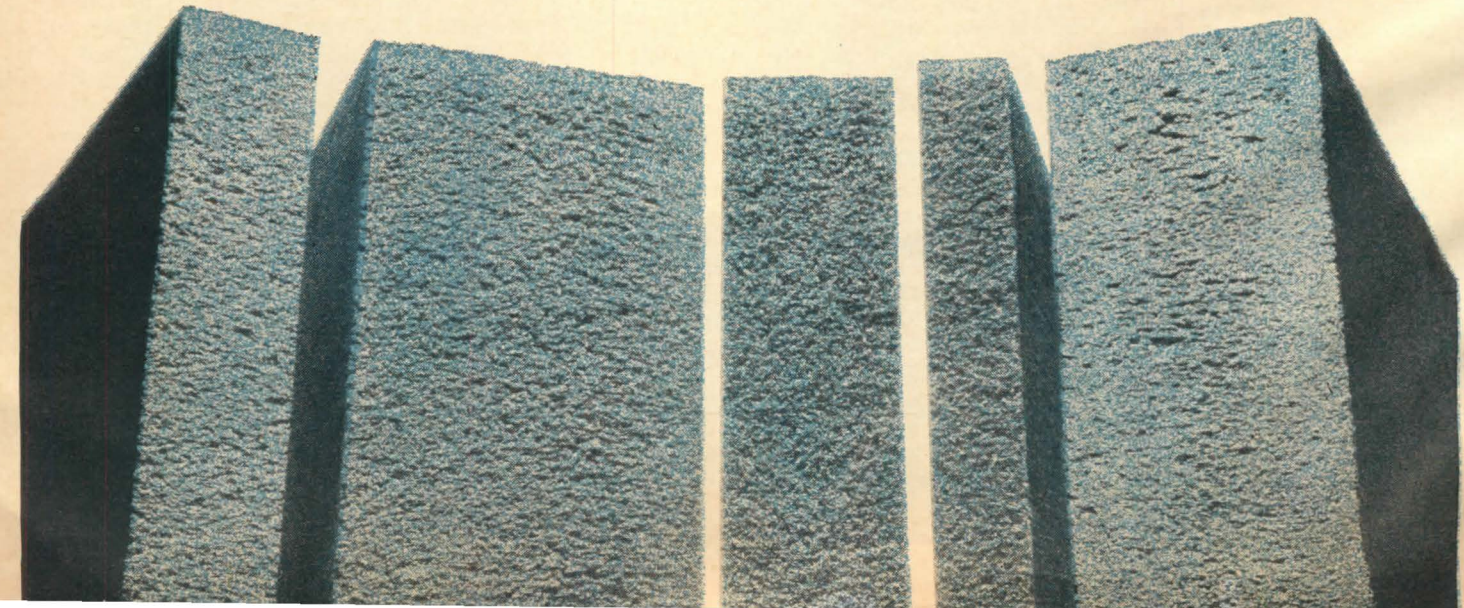
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DOW



demonstrated the validity of the convention's theme: "Technology, Environment, and Man."

Too often, the formal morning theme seminars destroyed what validity the theme was given elsewhere. It seemed the intent of the convention to have architects listen to persons from other disciplines. Speakers included an economist, a political scientist turned bureaucrat, a Nobel-prize-winning physicist, a philosopher, and an educator (Dr. Nathan Pusey of Harvard, who gave the Purves Memorial lecture).

With the rising crescendo of talk about architects having to be Renaissance men, conversant with a variety of disciplines, the appearance of so much intellectual brass seemed at first glance to be an honest effort by the AIA to acquaint its members with advanced thinking in other fields. Perhaps it was supposed to be; but it didn't work out that way. Apparently unbriefed, most of the speakers felt that they had to talk about architecture, a subject they spoke to with little insight. Almost to a man, they agreed that we live in a fast-moving age and that architects have the potential to bring order out of the chaos of our cities. They told an old story, of course, one that architects are constantly telling one another; and although it may have been novel to hear that outsiders have the same notions, it was more tedious than instructive. To gather such a phalanx of obviously well-informed leaders and give them no inkling of their purpose, was occasionally embarrassing, and, in total, overwhelmingly wasteful. Perhaps future conventions could benefit from a programmed program, one in which speakers are selected for their competence in a given field, then coached so that their speech has some relevance to that field.

With all this vast oversight, it is to the speakers' credit that something could be winnowed from each talk.

John Kenneth Galbraith, Harvard University economist, suggested that the Federal Government should provide a guaranteed minimum income to the needy, freeing the cities from the burden of welfare, and allowing this money to be used to attack other pressing urban problems. According to Galbraith's estimate, a minimum guaranteed annual income of $3100 per person would cost the Federal Government some $20 billion per year.

Dr. Isidor Rabi, Nobel laureate physicist from Columbia University, called for a Hippocratic oath for architects. "Science," he pointed out, "is a culture, a method, a vision, an outlook and a whole system of values." But he failed to elaborate on this or to draw a possible parallel between scientific thought and architectural reality.

Dr. Pusey suggested that architecture be made entirely a graduate discipline, students approaching it through four years of undergraduate liberal arts.

Robert C. Wood, former professor of political science at MIT and currently Under Secretary of Housing and Urban Development, whose panel was to discuss "Environment," talked mostly about HUD. He made a plea for designers and planners to work together in harmony and for private and public urban groups to join forces.

Dr. Sterling M. McMurrin, professor of philosophy at the University of Utah and provost of the university, spoke of the danger to the individual posed by today's rapidly changing society.

Environment

It was clear from the beginning that whatever happened to prove the relevancy of the convention's theme would occur independently of the formal speeches. Since neither the Denver Hilton nor the Brown Palace (where most of the conferees stayed) had a room large enough to hold everyone, the morning programs were held in the **Centre Theater,** next door to the Hilton. As a band played "The Saints Go Marching In," AIA president Morris Ketchum and a group the AIA had singled out for honorary membership trouped onto the stage. The theater was as gaudy as a Denver dance palace in the days of the Gold Rush. The ceiling was encircled with a gilt floral design and, along the walls near the stage, great tendrils of gilt looped toward the ceiling. The walls were red and green; the ceiling purple. It was an environment suited to garters and guitars — an environment so unsightly that, toward the end of the convention, a movement was begun, facetiously, to make the Centre Theater a historic landmark. Following Dr. Galbraith's keynote address, he, President Ketchum, and the honorary members filed solemnly off stage to the music of "Skip to My Lou, My Darling." The tune added, or seemed to be trying to add, a light note to what was a hard reminder of how technology dominates today's culture: That morning at 11:30, and every morning during the week, the AIA had to leave the Centre Theater so it could show *Stagecoach,* starring Ann-Margret. At least once during the week, a stagehand got up on the stage to remind the moderator that it was time to adjourn. One wondered how an architect would respond who had fallen asleep during the morning speeches to wake up with Morris Ketchum replaced by Bing Crosby and Technology, Environment, and Man represented by six guns, the Wild West, and Indians.

The environment was constantly changing for AIA visitors to Denver. And a good deal of the environment was inside the 50 or so buses that provided rocking, roaring transportation from one spot to another.

In **Central City,** a one-time mining town high in the Rockies, famous as the home of the Face on the Barroom Floor, conventioneers ate their way through a buffalo barbecue, sat through a performance of *Carmen* at the opera house, which is occasionally used for wrestling matches, and tippled in the city's innumerable bars.

According to Mrs. Gregg N. Cloos, who prepared some amusing notes on Central City's history, when the town burned down in 1874, hosts of volunteers turned out to rebuild it. "The very first building permit given out was for a saloon, and the last for a shoe repair shop. 'Spirituous needs came before soles.' " The evening the AIA was there, "spirituous" needs had to be attended indoors; constables roamed the streets taking glasses from the hands of unsuspecting architects who had wandered into the streets with them.

It was a comment on the environment of the **Air Force Academy** that 2000 visiting architects could be absorbed without even ruffling the schedule of the 500 or so newly arrived first-year men, or "doolies." The latter could occasionally be seen at a distance, but were never heard. It was the largest group of visitors the Academy had had at one time, and the logistics of the visit was an object lesson in how technology can dominate environment. The comfort station facilities at the Academy's football stadium were the only ones that could accommodate a large-scale visitation, and the tour began there and ended there. It was, in a sense, the core of the tour. From the bathroom, the group bussed to the auditorium for indoctrination, back to the bathroom, to the Purves Memorial lecture at the auditorium, to the bathroom, to the Garden of the Gods outside Colorado Springs, to the bathroom. Margaret Mead was right: plumbing *is* the triumph of American civilization.

. . .

Both Nathanial Owings and John Merrill (now retired and living in Colorado Springs) of Skidmore, Owings & Merrill were on hand for the tour of the Air Force Academy. Currently undergoing an expansion that will double its capacity, the Academy is having Henningson, Durham & Richardson of Omaha plan and oversee this expansion. SOM had originally drawn up a site plan that allowed for this expansion. Speaking to the press before the Purves Memorial Lecture at the Academy, Owings deplored, not the loss of a contract to another firm, but the deviation from the master plan that the Academy has allowed. "The deviation from the site plan is disastrous," said Owings. "The Government doesn't have the right to destroy the integrity of a nation-

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al monument." Specifically, Owings objected that the new dormitory will close in the chapel, cutting it off from the south, and that proposed additions to the existing dining hall will spoil its integrity as a building.

Technology

Technology, or lack of it, had the upper hand more often than not. Weaving among the spectacular rock formations in the Garden of the Gods, two buses balked at the hills and turns. They were city **buses,** not used to the rigors of a country existence, and they had to be pushed — by architects. The Denver Hilton offered almost as little technology as it did environment. No one, for instance, ever figured out why the **elevators** were always going down. Speaking to a group of students there, critic Reynar Banham asked that the **lights** be dimmed so he could show slides. When no one could find the light switch, a hotel engineer was called in: He couldn't find it either. After a long delay, the sounds of a hammer beating on metal came from the next room and then suddenly the lights went out.

A technological sidelight appeared at the **ladies' luncheon** at the Denver Art Museum, where a fashion show of American Indian clothing was presented. Not to be buffaloed by technology, the Indians in the early days of the West took the products of European technology and turned them into clothing decoration. Buttons became sequins to bedeck squaw bosoms. Furniture tacks made stunning belt studs. And status was measured not by the number of cars in a garage but by the number of deerskins a man could work into his wife's boots. If he used so many deerskins that she couldn't walk, she attained the leisure class by default.

Man

One of the convention's most electric moments came late on the first day, when resolutions were brought up for vote by the delegates. The first resolution, "urging the Congress of the United States to reject the proposal of the Commission for the extension of the Capitol," condemned the proposed expansion to the West Front of the Capitol, which would add 4.4 acres of space to the building at a cost of $34 million. When the resolution was announced, **Paul Thiry,** one of the architectural consultants on the expansion, took the floor and with obvious emotion charged that the resolution was "a real stroke of rudeness." He stated forcefully that the resolution was unjustly critical of the work of members of the profession and as such would be "a real breach of the etiquette and the ethics of the American Institute of Architects." So persuasive was Thiry that, in the emotion-charged atmosphere, a motion was made and carried to shelve the resolution. Fortunately, by the end of the convention, the air had cleared and, although no formal resolution was passed condemning the extension of the Capitol, it was clear that the AIA officially opposed it. For one thing, the report of the AIA board stating its opposition to the project was formally approved, and a resolution was passed urging Congress to adopt a Commission on Architecture and Planning for the Capitol. Incoming AIA president Nes pointed out that the Institute had been opposed to the extension long before any architectural consultants were appointed to give form to the work.

President **Charles M. Nes** of Baltimore is an articulate, straightforward spokesman for the profession. He places most hope for the future of the profession in education. In light of changes coming in the practice of architecture, he believes it should be a graduate discipline, entered after four years of history, English, math, economics, design theory, etc., followed by three years of structure, engineering, acoustics, etc., and last of all planning. He also feels that the mechanics of the profession, such as drafting, should be taken care of by specialists, freeing architects for more relevant tasks. But his concern goes beyond formal architectural training, to creating through education a climate in which good architecture can flourish. Nes plans to put stress on an incipient AIA program that is preparing material for the teaching of environment in grade and high schools. Such a program would open the eyes of schoolchildren to the environment — not dictating taste, but rather creating an awareness of what constitutes an agreeable environment.

Speaking on the last day of the convention in the theme seminar on Man, P/A's Editor, **Jan C. Rowan,** like Nes, saw hope in the younger generation. With today's changing moral codes and ethical standards, Rowan pointed out a tendency in today's youth to be less hypocritical than their elders. "It is a most unusual generation," he said. "Traditionally, children always revolted against their parents. The children fight against the world of the parents and they get so exhausted fighting that they end up in exactly the same spot as the previous generation.

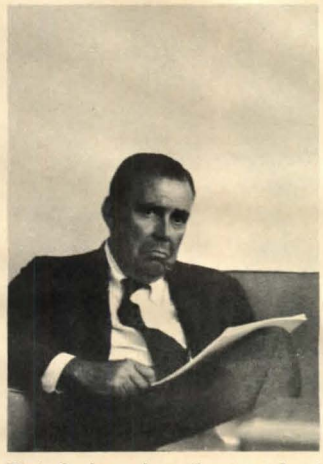
"But this coming generation is not fighting. They are not wasting their time at destroying our world. Instead, they are spending their time building a world of their own. Their philosophy is the philosophy of love, not hate, of give, not take, of live and let live . . . of live to the fullest extent, a life free of fear — free of the fear of the present and free of the fear of the future."

It was appropriate that, with Rowan's faith in the young, the convention should provide the students a more worthwhile program than it gave their elders. There was **Kenzo Tange's** carefully worded speech about the juxtapositions of form. And **Raynar Banham's** talk on air conditioning, which brought a fresh breeze to a tired subject. And **Truett Coston's** talk on setting up a practice, which was leavened with large dollups of Oklahoma humor. Coston's talk was part of a student evening sponsored by the Bethlehem Steel Company — an evening that last year presented Lewis Mumford's well-received talk. The Bethlehem program, only two years old, is well on its way to being one of the high points of the AIA convention.

Photos: Maude Dorr



Sidney Katz, New York Chapter, takes time off from speechifying from the floor.



Nat Owings is unhappy about the Air Academy master plan.



The lady in the Florida booth isn't unhappy about anything.



The beauty-makers arrive . . .



How far to the W.C.?



. . . and depart.



Happy conventioneers . . .



The architectural auxiliary game has its ups and downs.



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. . . lively ones . . .



President Ketchum receives amidst signs of the times.



. . beat ones . .



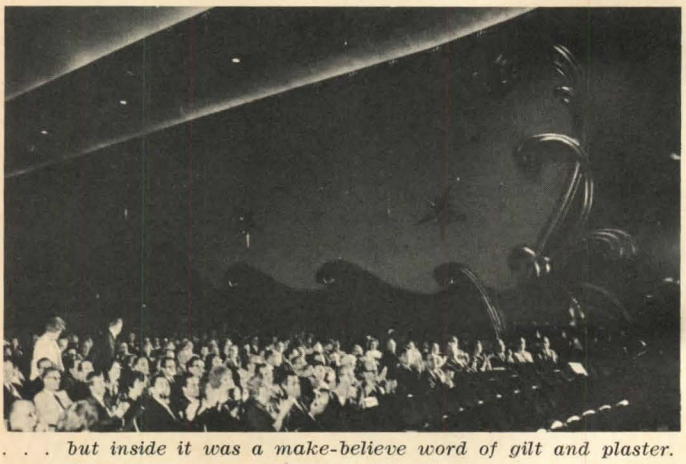
. . . and Op ones (Ada Louise Huxtable).



The elegant site of the major professional sessions looked real on the outside . . .



Lost in the vastness of the Air Force Academy, Owings, Pusey, and Ketchum hold a press conference.



. . . but inside it was a make-believe word of gilt and plaster.



The best space in town — the old Brown Palace Hotel lobby.



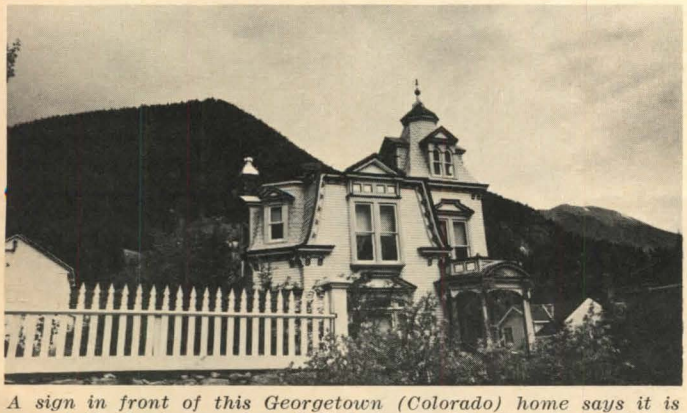
Former president Ketchum and President Nes.



The New Jersey contingent does a little campaigning.



Western riding show includes Turkish cavalry . . .



A sign in front of this Georgetown (Colorado) home says it is one of the best examples of Victorian architecture in the U. S.



. . . and Roman legionnaires.



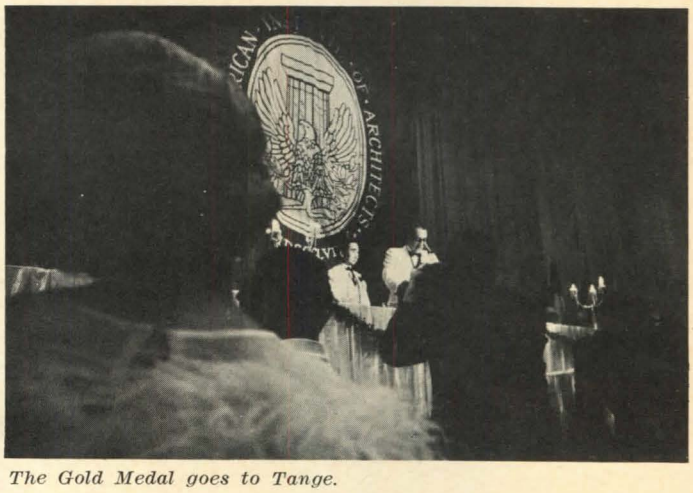
Banham amuses . . .



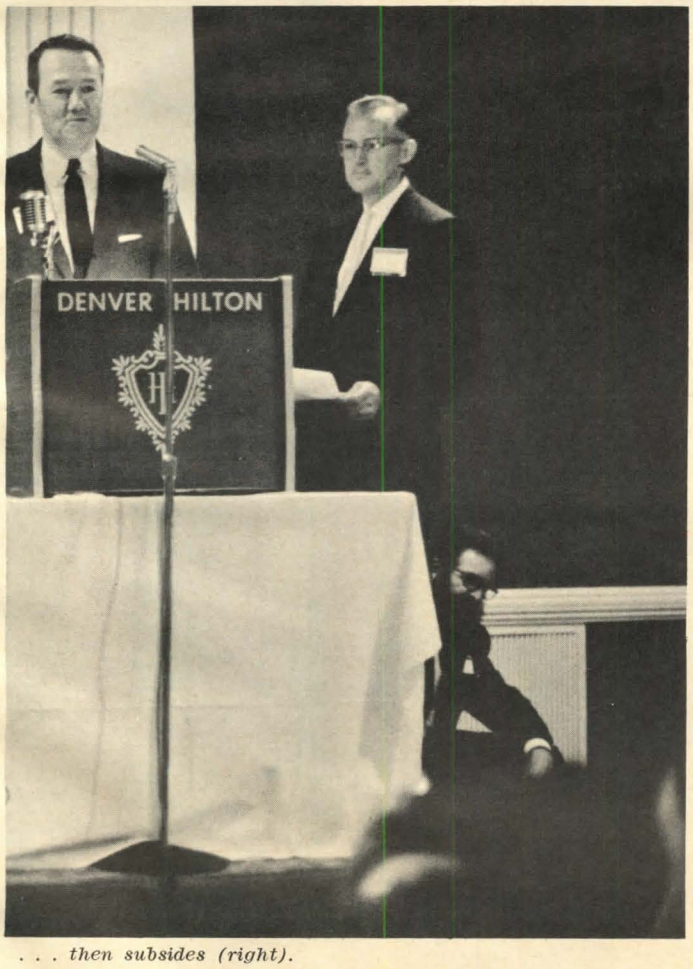
The ladies' auxiliary protests Mod fashion.



. . . everyone . . .



The Gold Medal goes to Tange.



. . . then subsides (right).



A city planner (Logue, Boston) and an economist reminisce.



Under-Secretary Wood explains.

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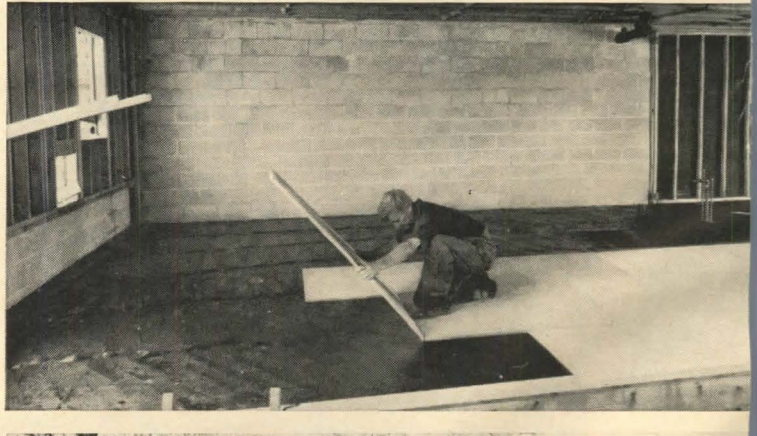
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Award giving is as much a part of the ritual of conventions as is the wearing of name tags, and each year the number of awards increases. New this year at the AIA Convention was the Henry Bacon Medal for Memorial Architecture, awarded to Eero Saarinen's Gateway Arch in St. Louis. Named for Henry Bacon, a 1923 AIA Gold Medalist and designer of the Lincoln Memorial, the award was accepted for Saarinen by his firm. Two other Saarinen structures, the CBS building and Dulles International Airport, won two of the three AIA first honor awards given this year.

Although unable to attend the convention, Aline Saarinen, widow of the architect, sent the following message, which was read at the awards luncheon:

"His awards were of deep consequence to Eero. He cherished each of them. He was pleased for the client's sakes; he felt they deserved rewards, too. But he was most pleased for his own sake.

"He saw these awards as symbols of his colleagues' approval and respect — and there was no respect that he valued more than that of his colleagues. Tragically, the Gold Medal was posthumous. To him it represented the summit.

"But I know that this Henry Bacon Medal would have had special meaning for him, too. Eero believed in monuments — in the kind of monuments that are defined in the Henry Bacon Medal grant, as having no other purpose than 'to portray, promote or symbolize an idea of high spiritual concern.'

"Eero had an almost religious belief in architecture. Beyond its purpose of providing shelter, he felt it could enhance man's life on earth, could give man confidence and a sense of continuity and even fulfill his belief in the nobility of his existence.

"The St. Louis arch symbolizes, of course, the Gateway to the West, for St. Louis was the point from which the brave men set out in the westward expansion.

"But I think Eero meant more than the simple symbolism of a gateway. I think he wanted to symbolize man's aspirations. More and more, as his work progressed, he tried to make his buildings soar — whether from the ground straight up to the sky as at CBS or in its upward surge of the columns at Dulles. The St. Louis arch is the least earthbound of them all. It is the climax of his soaring forms.

"And I believe that, by the very daring of his conception, he wanted to reaffirm man's external desire to reach, to try, to explore.

"In the shape of the weighted catenary curve and in the materials — the core of concrete and the skin of stainless steel — he wanted the arch to be out of time (and brilliant engineers and contractors made it possible). But he also hoped that it would be timeless. Like Henry Bacon, he believed such 'useless' monuments could be a matter of 'high spiritual concern.'

"The St. Louis arch was the first major work Eero did independently of his father. In its refined form, it represents his mature work. In between, there were years and years when it seemed the arch was a lost cause. I even remember a member of the Fine Arts Commission saying it would be built only over his dead body. But Eero never lost faith that someday it would rise by the Mississippi.

"He would have thanked you — his colleagues and his friends — with the whole of that big, warm, generous heart for making him the first recipient of the Henry Bacon Medal and for so honoring his 'useless' monument. I thank you, too."

URBAN PLAYSCAPIST



NEW YORK, N.Y. Landscape architect M. (for Marvin) Paul Friedberg says, "The whole reason for my success is that I'm living down my first name." But there are other reasons — in the main, his work at the New York World's Fair Spanish Pavilion and at the Carver and Riis Houses in New York (see pp. 177–178, JANUARY 1965 P/A, and pp. 170–172, JULY 1966 P/A). Friedberg has brought movement and life to once dormant, central, urban plains by combining and varying natural materials, interrelated play forms, space-giving scale, and densities of activity. He would not call these community plazas playgrounds — "the playground is dead," he says — but rather "play spaces," where any age can find fun and freedom by watching or participating.

His design philosophy stems from a belief that tradition, not economics, should govern urban space. The outdoors should be public, in the plaza

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or piazza sense, enjoyed and shared by all. These outdoor spaces can only be brought to life by a careful mixture of people and forms. And only when architects and planners realize that the outdoors, from the stoop to the subway, belongs to the public community, and when they start designing for this community, will the city take on the dimension and vitality of a true urban center. These thoughts are not nostalgic wishes for a return to the past. Friedberg sees design as humanizing the inhuman scale and spatial restrictions of the city. And with an ever-expanding population living in ever-shrinking spaces, with the thought of a 24-hour work week approaching the realm of possibility, it is high time more designers took to the outdoors and designed for the public instead of for the private individual.

The plazas at Carver and Riis are just a beginning. They stand alone. Friedberg would have such play places linked to other community facilities throughout the city — to the social services, transit, entertainment and shopping, creating what he calls a "living corridor" throughout the urban center. The beauty of this idea is that it could so readily be realized within the existing urban framework through the use and design of alleyways, vacant lots, small parks, storefronts and sidewalks. Then, Friedberg feels, the city would belong to man, not to the machine.

Friedberg's philosophy of designing for play has an antecedent in that of turn-of-the century British "humanist" Friedrich Schiller, who once propounded: "Man only plays when he is human in the full sense of the word, and he is only completely human when he is playing."

ASPEN 1966: SOURCES AND RESOURCES OF 20TH-CENTURY DESIGN



ASPEN, COLO. Design, like music and shot-putting, is an international language. The trouble is that the people who talk about design do so in a babble of tongues. This problem of verbal communication was pointed out at the sixteenth annual International Design Conference held in Aspen June 19–24. It is a problem that goes beyond having something to say, for a speaker wrestling with the English language often leaves an audience wondering *what* he said, let alone whether it was meaningful. And some speakers, whose native tongue is presumably English, so babble the delivery of a speech that the message never reaches the listener.

Whether or not the existence of a conference such as Aspen has validity (see Jan C. Rowan's Editorial), given the fact of its yearly occurrence and framework, much can be done to improve it. Copies of speeches could be distributed to the audience beforehand, so they could follow a speaker who treats the English language as a challenge instead of a joy. Or perhaps stand-ins could read some speeches for their authors, the way stunt men perform difficult feats for actors.

Reading through the speeches in an air-conditioned, sea-level office two weeks after the conference, P/A culled the following from what was said at 8000 ft.

Peripatetic British critic Reyner Banham pointed out



Kaufmann



Banham

that moral reassurance was as necessary for designers as any other food: "Professional designers go to camp meetings in tents in the mountains," he said, "to be told what's right and what's wrong. No other profession, not even those bound by massive oaths of probity, like the Hippocratic oath of the medicals, has this rage to keep itself morally pure by public self-examination. . . . No more in design than in dentistry can society accept that the first responsibility of its servants is to please themselves.

"And so, to the big crossup: the conscience of the design profession tells it that it cannot give absolute allegiance to the promptings of the conscience. The designer as a social being confronts the designer as a creative individual in an unresolvable dilemma, and he is glad to have any hell-fire demographer or revivalist cybernetician come and hand him a ready-made answer."

Banham continued his moral examination by noting that designers have trouble adjusting to an increasing design awareness and improving taste in the public. "After a hundred years or more of regarding the bad taste of the public as one of design's major problems, it can be difficult to adjust to the idea that they are now on your side and have stopped throwing rocks. . . . Furthermore, a lot of design people seem not to want to adjust: The belief that design is a thankless task definitely appeals to the martyr-complex that design has inherited from its artistic forebears."

Psychologist Richard Farson looked to the future, exhorting designers to turn their talents to "the design of human relationships. . . . All of you ladies in this audience who are pregnant are going to have babies who will be in the high school graduating class of 1984." And he went on to find reason for hope in the young generation. "This new generation might be characterized by calling it the honest generation. It seems to want to be 'in on things.' It seems to be much better able to share. Sociologists have a way of talking about relationships. There are two ways of being. You can either present yourself to another person — that is, you try to have this other person form a favorable impression of you; or you can share yourself — you can sort of let them in on what it's like to be you at this moment. Today, practically all our relationships everywhere — at work, at home, at school, whatever — are of the presenting kind, where you are presenting yourself all the time. Very little sharing takes place. Very little. It's quite rare with us. It's more common in the newer generation where individuals don't censor so much of what they are saying. You'd be amazed at how much we censor. We need your help in the design of human relationships that will encourage intimacy. I think the real problem in this for you is not technical; it is emotional. We have to provide intimacy for people; but we also have to balance that and provide privacy."

Magazine designer and art director Henry Wolfe urged all designers — "artists," he called them — to do what they feel is their best work, even if public taste has to be ignored. In deploring laymen meddling with the work of the designer, he said: "Henry Ford is very involved in the design of the bodies of his cars. But he leaves the en-

gineer, who designs the motor, alone. The engineer has a superior position to the industrial designer or the advertising designer or the artist. Henry Ford doesn't tell the designer of the engine block what to do because he is afraid that, if he does, something is going to explode. But he will tell the designer of the bumper that he does not like these high overriders. They look too scary, too black, too this, or too that. Because the outside of the car never explodes.

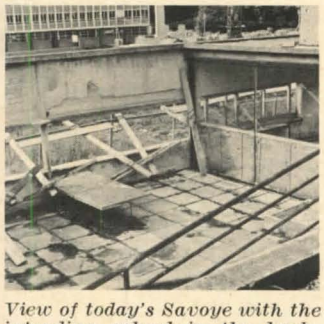
"I think maybe that the artist has too much life to give. He is shy about it, and gives his work instead. I think the shy person gives to those who least understand the gift — out of shyness. I think we give to those who least understand the public."

Edgar Kaufmann, who currently teaches architectural history at Columbia University, reminded the audience that there is "no such thing as beauty without ugliness" and then went on to talk about human scale. With today's rapid changes, he pointed out, "It is time for us to realize that we must start talking about human scales, and not the human scale, and that human scales have to be considerably different than they have ever been before. In the charming world of Auguste Rodin, you could establish architecture by making a window frame out of prefabricated concrete that was scaled to a standing human figure, from which we have to derive a good deal of the modular. Today, this ideal is only a very small part of the possibility of human scales. A standing human figure is no longer very much of a human figure."

With that, the tent at Aspen folded for another year.

SALVATION OF THE SAVOYE

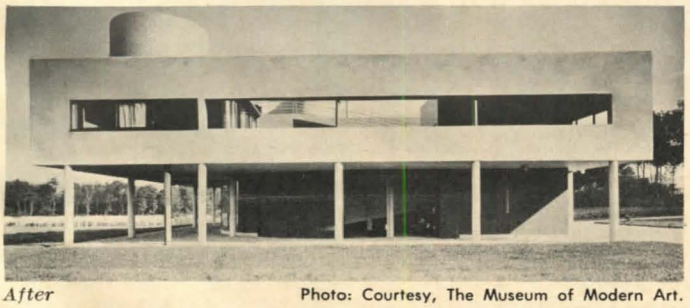
POISSY-SUR-SEINE, FRANCE. Last month, in New York's Museum of Modern Art, 16 photographs gave silent testimony to a lady's fall from grace. Suffering at the hands of time and man, the Villa Savoye, Le Corbusier's 1930 masterpiece, will be no more than a pile of rubble in 10 years unless someone comes to her rescue. And it looks as if someone may. The Museum's photographs show a gutted shell of peeling plaster, broken windows, defaced walls, and rotting stucco, more reminiscent of the terrors of war than the joys of architecture.



View of today's Savoye with the intruding school in the background. Photos: Laberthonniére, Paris



Before



After Photo: Courtesy, The Museum of Modern Art.

During World War II, the Villa was occupied by the Germans (who loaded the toilets with concrete), and by the Americans (who peppered the windows with bullets). Mme. Savoye, impoverished and widowed, moved to a nearby farm, but refused to sell the house, using it as a barn in the hopes someday that her grandson would restore it.

By 1959, Poissy, once a quiet French village, had grown into a bustling Parisian suburb, and the house was threatened by plans to tear it down and put up a school house in its place. The house was saved by the last-minute intervention of French Minister of Culture, André Malraux. But its salvation was half-hearted. The school went up in a meadow that the Villa once overlooked, and, although still standing, the house is mockery of her former self. Last winter, heavy snows further weakened her long-neglected frame.

Again on the brink of disaster, the Villa may yet be saved. Not long after the Museum decided to exhibit the photographs, workmen appeared to patch the house's crumbling exterior stucco. And, on June 24, André Woginsky, José Luis Sert, and other "friends of Le Corbusier" met in Paris with representatives of the Ministry of Culture to discuss plans to turn the villa into a museum of Le Corbusier's work.

SCHOOLS

The American Academy in Rome is offering a limited number of fellowships in architecture, environmental design, and landscape architecture for the 1967-1968 academic year. The fellowships offer $3650 a year for travel and study in Europe. The deadline for application and submission of work is December 1. Requests for details should be addressed to the Executive Secretary, American Academy in Rome, 101 Park Ave., New York 17, N. Y. . . . The State University College of Forestry at Syracuse University this past June established a School of Landscape Architecture. George J. Albrecht will be the Director of the new school of Landscape Architecture, which has had department status for the past 51 years . . . Syracuse University will offer a new program for graduate study in real estate and urban development. Prof. Max R. Bloom will direct the program.

PERSONALITIES

George T. Rockrise of San Francisco has been appointed Advisor on Design to the Secretary of the Department of Housing and Urban Development. **Mrs. Estelle Dodge,** president of Estelle Dodge Associates, New York City, will study the use of works of art in urban redevelopment. Rockrise's primary assignment, said Secretary Weaver, would be to spearhead HUD's drive to raise the quality of design throughout all of its programs and to strengthen working relationships with design groups such as the AIA and Society of Landscape Architects . . . **Andrew F. Euston, Jr.,** of Washington, has been named AIA Director of Urban Programs. Euston will succeed Paul D. Spreiregen, who has assumed new duties as program director of architecture and design for the National Endowment for the Arts . . . The New York Chapter AIA has recently elected **Max O. Urbahn** president; **William B. Tabler** first vice-president and president-elect; **Philip C. Johnson** and **Gillet Lefferts, Jr.,** vice-presidents; **Owen L. Delevante,** secretary; and **Lathrop Douglass,** treasurer. The chapter also presented awards to **Harry M. Prince** of Harry M. Prince & Associates, New York, for outstanding service to the architectural profession and the community, to **Kelly & Gruzen** for their design of the Chatham Tower Apartments, and to **Julian H. Whittlesey** for his pioneering work in the field of multiple dwellings . . . **Charles L. Macchi**, senior associate in the New York firm of Smith, Haines, Lundberg & Waehler, has been elected a trustee of Pratt Institute . . . **Jack H. Swing,** on the University of Illinois faculty since 1959, will become the uni-

versity's chairman of the Department of Architecture. He will succeed **Granville S. Keith,** who is retiring . . . The new president-elect of the American Society of Civil Engineers is **Richard H. Tatlow, III,** president of Abbott, Merkt & Co. of New York . . . **F. Gene Ernst** has been named executive director of Kansas City's Urban Renewal Agency . . . **Robert Dietz,** dean of the College of Architecture and Urban Planning at the University of Washington has been appointed to the President's Commission on Architectural Barriers. The commission will study the problem of making buildings accessible to the handicapped . . . **Eduard Franz Sekler** has been appointed Director of the Carpenter Center for Visual Arts at Harvard . . . Stanford University School of Medicine has appointed **John W. Hornback** resident architect . . . **C. Ray Smith,** Associate Editor at P/A, has been elected Vice-President of the U.S. Institute for Theatre Technology, an organization devoted to research and to the promulgation of information about theaters and auditoriums . . .

BIG DEAL ON 34TH STREET

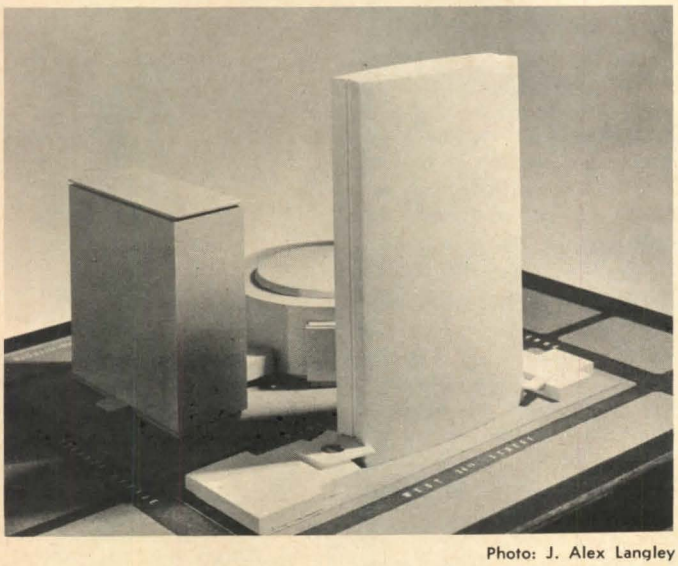


Photo: J. Alex Langley

NEW YORK, N.Y. While Pennsylvania Station was still a-falling, making way for a circular Madison Square Garden and office structure (left, in model photo), plans announced last month call for a Kahn & Jacobs-designed elliptical 52-story skyscraper to rise across from it between 33rd and 34th Streets. In a $200 million (50-year-lease with renewable options) real estate deal, one of the largest involving a single property in the history of this city — Pan Am air rights deal took in $100 million — the Bowery Savings Bank has leased the land to a dynamic duo: Lawrence A. Wien and Harry B. Helmsley, who own the Empire State Building. Preliminary plans call for a 52-story tower, containing more than 1,800,000 sq ft of office space, with a subsurface, four-level shopping and parking complex. The Bowery will have bank branches in single-story appendages at either end of the building. A pedestrian plaza, covering nearly a third of the block, will surround the building, and, together with the Madison Square Garden-Pennsylvania Station project, will hopefully create a needed spaciousness in New York's booming West Side.

A BANNER YEAR FOR MICHIGAN BLVD.

CHICAGO, ILL. Banners have color, motion, and sound. The sight of a gaily colored banner gently flapping in the breeze is pleasing, even inspiring, and, perhaps for these reasons, men have marched into battle behind them and rallied beneath them almost as long as they have known how to weave cloth.

When the Michigan Boulevard Association thought of ways to brighten the Boulevard late last winter, association president Ross Beatty suggested banners to replace the annual summer flower displays. On the first day of summer, 136 banners went up on the light poles along 18 blocks of Michigan Avenue. Designed



by the Chicago display firm of 3 Dimensions-Award, each banner sports one of four flamboyant designs — daisies, sailboats, thistles, or a likeness of Buckingham Fountain — silkscreened on canvas dyed red, blue, purple, or green. Each banner is 8′ high and 2′ wide. Because of the gusty winds that whip down Lake Michigan, then rush across Grant Park and onto Michigan Boulevard, the banners are anchored at both ends, fastened to the light poles by steel braces. But there is room for play in each one, and they ripple in the almost constant breezes.

Not only do the banners help transform the sterile, gawking lampposts, but they also go a long way toward giving Michigan Boulevard the constant pageantry a great boulevard should have.

AWARDS

Samuel Ratensky, member of the New York City Housing and Redevelopment Board, has been awarded the Medal of Honor for City Planning by the New York and Brooklyn Chapters of the AIA, the New York Chapter of the American Society of Landscape Architects and the Metropolitan Section of the American Society of Civil Engineers . . . The Houston firm of **Brooks & Brooks** has won the $15,000 prize in the AIA and OCD national fallout shelter design competition. Goal of the competition was to design a dual-purpose fall-out shelter and community educational-recreational facility for peace-time use . . . The Portland, Ore., Chapter AIA honor awards went to **Wolff, Zimmer, Gunsul, Frasca,** for their Portland State College parking garage, and to **Willard Martin** for his Schwenn-Bradley law offices in Hillsboro. Awards of Merit went to: **Richard Campbell** of Campbell, Miller & Michael, **Skidmore, Owings & Merrill, Franks & Norman, Fletcher & Finch,** and **Endicott & Unthank** . . . Winners of the Portland Cement Association architectural scholarship awards program were **John T. Olson** from Harvard, **James A. Velleco** from Notre Dame, **Max J. Smith** from the University of Utah, **Clifton C. James** from Louisiana State University, **Ahmad Sabahi** from the University of Kansas, **Robert Cole Theel** from the University of California at Berkeley, **E. George Kneider** from the University of Manitoba, **W. P. Dinsmoor White** from North Carolina State University, and **Andrew Sammataro** from the University of Virginia . . . **Eugene J. Mackey III,** designer with the St. Louis firm of Murphy & Mackey, is the winner of this year's James Harrison Steedman competition. The competition, which offers $3000 for travel and study in Europe, is open to architectural school graduates who have had at least one year's professional experience in St. Louis . . . **James F. Knight,** a University of Illinois graduate architecture student, has won the LeBrun Traveling Fellowship for travel in Western Europe. He will use the LeBrun Fellowship for six months before picking up the benefits of a year's travel and study under the Lloyd Warren Fellowship that he won last April . . . **Donald E. Paine,** architect from Olympia, Wash., has received the Construction Specifications Institute citation award for his work for the Weyerhaeuser wood products manual, using the CSI format for construction specifications . . . **Francis Keally,** New York architect, has received the Golden Plate Award of the American Academy of Achievement . . .

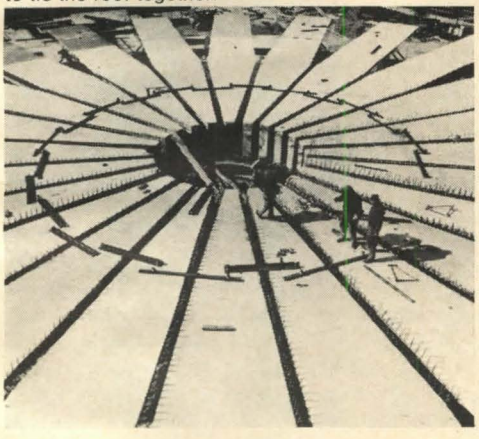
Gymnasium in the round
with post-tensioned T-beams and Incor®

The planners for the Student Activities—Physical Education Building at New York State University's Agricultural and Technical College, Farmingdale, L. I., wanted a large gym that could be partitioned. Because the partition would operate on an overhead track, a domed roof was ruled out and obstructive columns were out of the question.

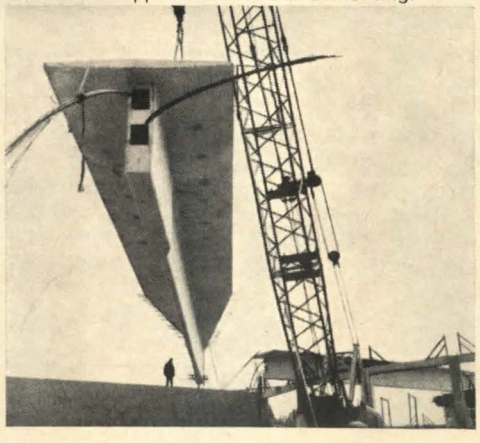
For structural and esthetic reasons, the architects chose a flat concrete catenary roof, 143 feet in diameter. The completed circular inner roof covers a 124-foot gymnasium. Precast, post-tensioned concrete T's were joined together by a steel tension ring (which was anchored to steel cables running through each T) and a concrete compression ring at the center of the building.

Twenty-four 60-foot-long, 25-ton, pie-shaped T's were precast and shipped by truck 50 miles to the construction site. "Incor", America's *first* high early strength portland cement, was used for the required 5,000-psi concrete. The unique qualities of "Incor" 24-hour cement permitted faster reuse of forms. The 250-foot outer diameter lower roof is framed with pre-tensioned T-beams, which were also made with "Incor" cement. Lone Star Cement Corporation, 100 Park Avenue, New York, N.Y. 10017.

The roof with the T's in place on an outer ring of concrete columns and steel-pipe falsework. Doweled spaces left between the T's were concreted and a 2-inch concrete topping applied to tie the roof together.



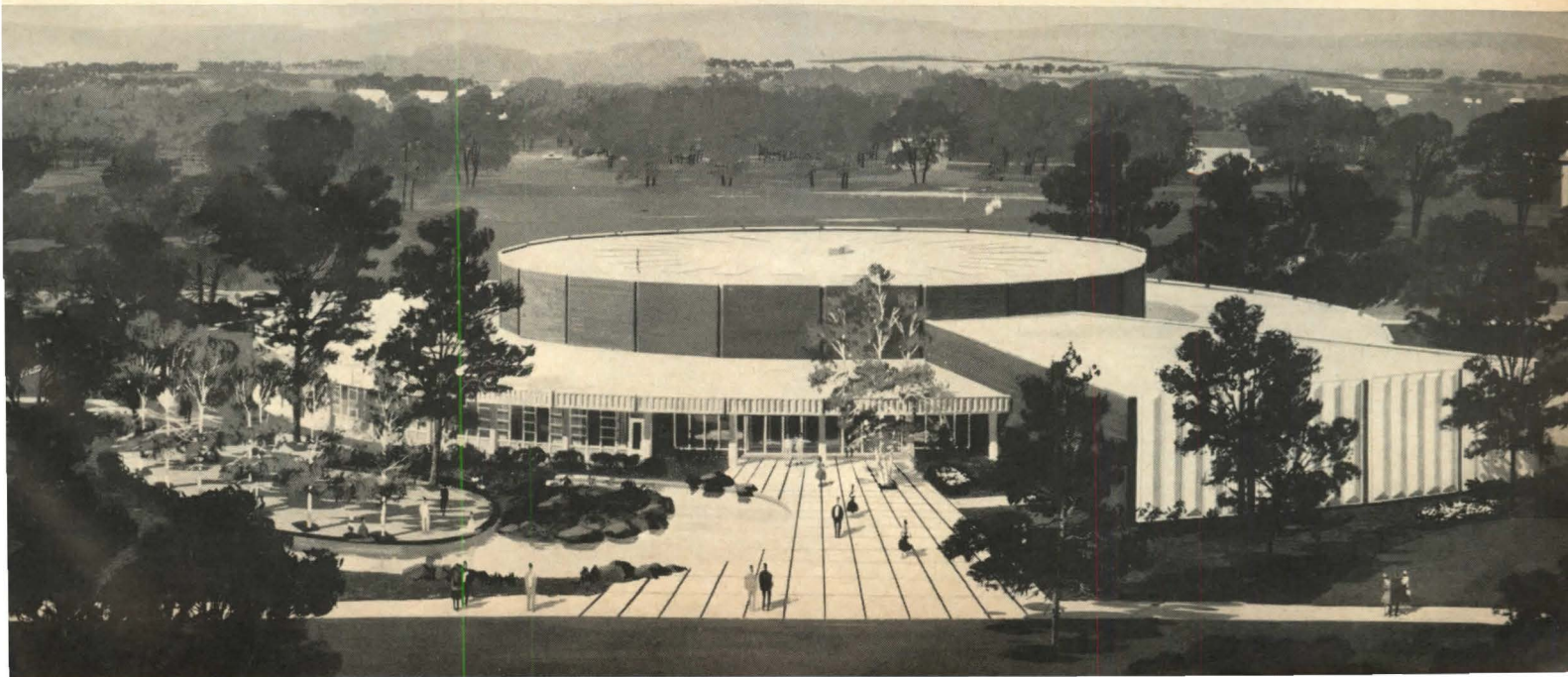
One of the 25-ton, 60-foot T-beams being placed by crane. Roof became self-supporting when tension was applied to cables at center ring.



MEMBER PCA 50th year PORTLAND CEMENT ASSOCIATION

LONE STAR CEMENT CORPORATION

STUDENT ACTIVITIES-PHYSICAL EDUCATION BUILDING, NEW YORK STATE UNIVERSITY AGRICULTURAL AND TECHNICAL INSTITUTE, Farmingdale, L. I.; Architects: THE OFFICE OF MAX O. URBAHN, New York, N. Y.; Consulting Engineers: SUMMERS AND MOLKE, Albany, N. Y.; General Contractor: ANDERSON CONSTRUCTION COMPANY, Huntington Station, Long Island, N. Y.; Prestressed Members: BRAENSTRESS, INC., Wyckoff, N. J.; Ready-Mixed Concrete: SAMUEL BRAEN AND SON, Hillside, N. J.



John D. Entenza, director of the Graham Foundation for Studies in the Fine Arts in Chicago, has been awarded the Yale Arts Association Medal for his distinguished service to the arts and architecture.

A MUSHROOM GROWS IN ATLANTA

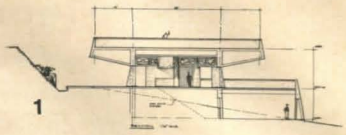


ATLANTA, GA. Nearing completion here is the Regency Hyatt Hotel (shown in rendering). Designed by Edwards & Portman, the hotel was originally owned and financed by a group that included architect John Portman. Late this spring, while under construction, the 21-story hotel was sold to the Hyatt Corporation of America for a reported $16,500,000, and a revolving restaurant, which will rise 75′ like a giant mushroom from the roof, was added. Arranged in a mammoth square, the 820-room hotel will have a covered, open central courtyard, faced on all sides by balconied guest rooms. The entire interior space will be air conditioned. Located on Peach Tree Street near the new Merchandise Mart, the Regency should go a long way toward picking up the tempo of downtown Atlanta.

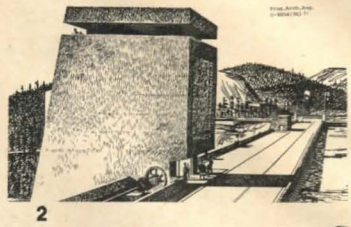
CALENDAR

The Illuminating Engineering Society will hold its annual meeting August 21–25 at the Hotel Radisson, Minneapolis . . . The National Design Center's second **Contract Market Seminar** is scheduled for October 4–5. The seminar, which will be held at the Design Center's headquarters in New York City, will cover specification practices and market potentials. Former AIA President Morris Ketchum will present a discussion on "The Role of the Architect." Fee for the two-day program is $150. Registration forms are available from the National Design Center, 415 East 53rd St., New York, N. Y. . . . **"Our People and Their Cities — A Conference to Improve the Quality of Urban America"** is the theme of the Urban America, Inc., Washington conference September 11–13 at the Sheraton Park Hotel **. . . The International Conference on Space Structures** will convene September 21–23 at Battersea College of Technology (the proposed University of Surrey) in London, England . . . **The Prestressed Concrete Institute** will hold its convention at the Rice Hotel in Houston, Tex. September 25–30 . . . September 27–30 are the dates for the **Producers' Council** annual meeting, to be held at the Waldorf-Astoria in New York . . . **The National Retail Merchants Association** with Laurence A. Alexander & Co. will sponsor a two-day workshop on downtown modernization and beautification October 4–5 at New York City's Waldorf-Astoria. Additional information is available from David Breedon, Secretary to the Downtown Development Committee, National Retail Association, 100 West 31st Street, New York 1, N.Y. . . . **The Architects' Tour of Japan** will leave Los Angeles October 7 for 24 days of Japanese art and architecture. Complete details are available from Kenneth M. Nishimoto (who has conducted the tour for the past 11 years), 263 South Los Robles Ave., Pasadena, Calif. 91106 **. . . The Architectural Woodwork Institute** will hold its annual meeting October 19–21 in Williamsburg, Va. . . . October 26–29 are the dates of the **South Atlantic Region AIA** conference to be held at the Queen Charlotte Hotel in Charlotte, N.C. The South Atlantic Region of the AIA includes North and South Carolina and Georgia and has a total membership of more than 1000 architects.

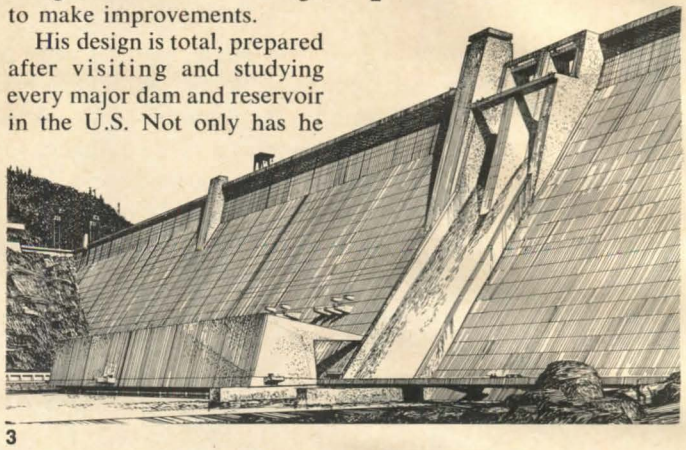
THIRY BETTERS LIBBY BY A DAM SITE



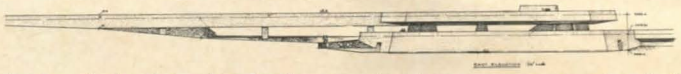
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KOTENAI RIVER, MONTANA. Paul Thiry & Associates of Seattle two years ago began preparing a comprehensive architectural and landscaping plan for the $352 million Libby Reservoir Project for the Army Corps of Engineers, Seattle District. Although Thiry has worked on several dams, this is the first time he was consulted at the beginning of a dam project, rather than being called in after the design to make improvements.

His design is total, prepared after visiting and studying every major dam and reservoir in the U.S. Not only has he designed the dam, but he has also done the buildings that go with it: a visitor's center **(1)**, which is to be used as the resident engineer's office during construction; the Treaty Tower **(2)**, whose high-speed elevators will carry visitors up to balconies overlooking the lower end of the 90-mile reservoir (42 miles of which are in Canada), or down to an aquarium and exhibition galleries leading to the powerhouse **(3)**. In addition, his planning includes proposals for roads and landscaping. And his persuasiveness has helped preserve much of the natural terrain, with roads often cutting through the surrounding mountainside to save trees. The Thiry-designed powerhouse, whose sloped and textured walls will match the dam structure, represents a marked departure from the heavy vertical crane supporting structures of other powerhouses. A 375-ton gantry crane will be supported directly on the powerhouse foundation and will remove the dam's massive dynamos when repairs are needed.

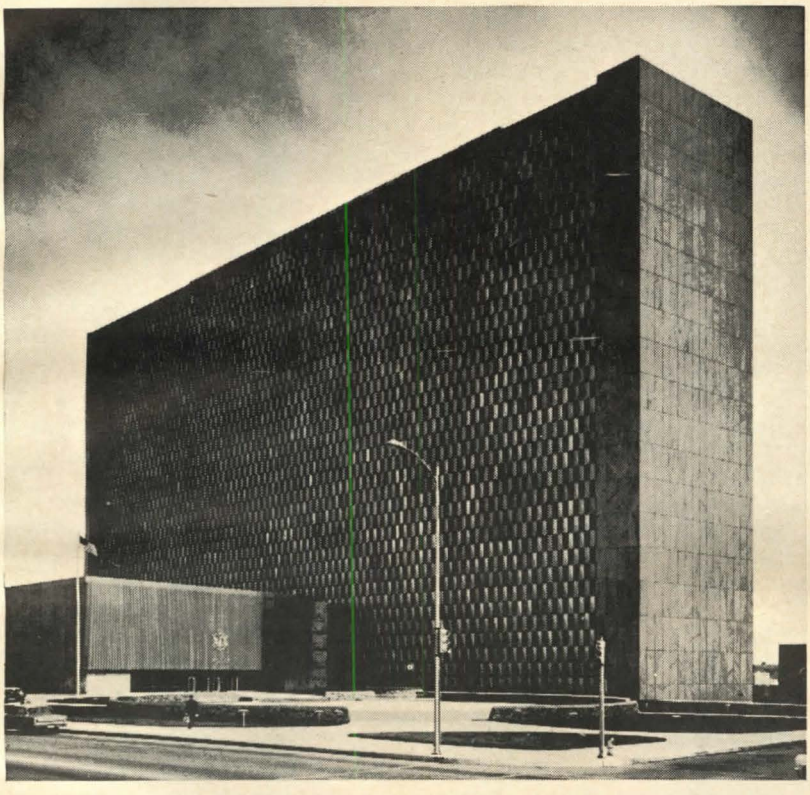
Construction was begun in May, with work on three necessary relocation contracts. Engineers for the project are all Seattle-based: Peter H. Hostmark & Associates (structural); James B. Notkin & Associates (mechanical); and Beverly A. Travis (electrical). Basic planning, site selection, dam type selection and detailed design of the dam have been, or are being, done by Seattle District Army Corps of Engineers.

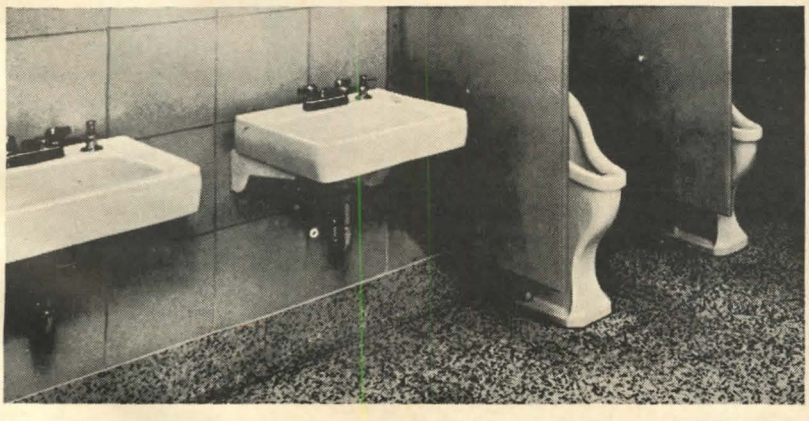
WASHINGTON/FINANCIAL NEWS

BY E. E. HALMOS, JR.

Discussion in the capital got under way with a vengeance over a matter taken seriously by architects and the general public — the reconstruction of the crumbling West Front of the U.S. Capitol.

GOVERNMENT BUYS ELJER FOR NEW KANSAS CITY FEDERAL BUILDING





Eljer's commercial plumbingware scores another big one! It's the $27.5 million Federal Office Building in downtown Kansas City. Twenty Federal agencies employing 4,500 people will call it home 40 hours a week. That guarantees plenty of wear for washroom fixtures and fittings.

The Eljer line is built to take it. It's durable. Acid-resistant, exposed surfaces shrug off years of use, provide the ultimate in sanitation. Fixtures and fittings work together to keep call-backs almost nonexistent.

And what's more, Eljer plumbingware is good-looking. Shapes are streamlined and modern in Eljer pastels and white. All good reasons why you'll find Eljer in so many prestige buildings.

Eljer's Master Crafted commercial line gives you complete product selection. For more information, call your Eljer representative, or write Wallace-Murray Corporation, Eljer Plumbingware Division, Dept.PA, P.O. Box 836, Pittsburgh, Pa. 15230.



Architects: Voskamp & Slezak, Radotinsky-Meyn-Deardorff, Everitt & Keleti, all of Kansas City, Mo./ Engineers: Massaglia-Neustrom-Middleton, Howard, Needles, Tammen & Bergendoff, both of Kansas City, Mo./ General Contractors: Frank Briscoe Co., Inc., Newark, N. J.; Huber, Hunt & Nichols, Inc., Indianapolis, Ind./ Mechanical Contractors: Limbach Co., Pittsburgh, Pa.; Interstate P & H Co., Kansas City, Mo./ Wholesaler: Missouri-Kansas Supply, Kansas City, Mo.

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Involved was a $34 million plan to extend the wall of the West Front out about 80 ft, providing an additional 4.4 acres of space — space to be filled with more public restaurants, Congressional meeting rooms, storage rooms and, importantly, provision for vertical circulation in the Capitol, whose dome now interrupts the upper two floors.

All the participants are well aware that the real "Architect of the Capitol" isn't septuagenarian nonarchitect J. George Stewart. The "Architect" is a powerful committee made up of the Vice-President, the septuagenarian Speaker of the House, and the Senate and House minority leaders — plus all 531 other members of Congress. As with two other recent Capitol Hill structures — the New Senate Office Building and the Rayburn Building — this committee can and does override expressions of public indignation and simply instructs the Architect whether or not to proceed. This was done recently, and the Senate dutifully went along.

Nevertheless, the participants jumped into the fray with a will. Some, like Wisconsin's Senator Proxmire and Illinois' Senator Douglas, were familiar Stewart-baiters; others were relative newcomers to this arena: the City's Fine Arts Commission (which called the plan a "tragedy", the AIA and many of its members, who properly addressed themselves to Congress, not Stewart (for more on the AIA and the Capitol, see p. 64); Senator A. S. (Mike) Monroney; a whole group of House members — and even Pennsylvania's Senator Clark, who suggested the possibility of legislation to outlaw "desecration" of the Capitol.

An unexpected defender of the proposed extension was Louisiana's Senator Long, who suggested that Senators objecting to the West Front plan give up the extra space they now occupy in various Capitol buildings.

But behind the furor is a very real problem. The old sandstone walls of the central part of the Capitol are badly weathered and visibly crumbling. There's considerable doubt about the strength of the brick arched piers that have supported the enormous weight of the cast-iron dome for more than a century. Then, too, spatial arrangements are awkward: If a messenger is on the top (gallery) floor, he cannot go to the Senate from the House (except through the new East Front) without descending a couple of grandiose flights of stairs, then re-ascending on the other side. And although the Capitol restaurants annually lose something like $1 million, the present facilities are hard-pressed to handle legislators, staff, tourists, and favored guests.

In addition to architectural objections, there are historical ones: The West Front is about the last remaining vestige of the original building visible from the outside. It contains parts of the building left standing when it was burned in the War of 1812. It is the last remaining work of the original architects: Thornton, Latrobe, and Bulfinch. Architects objected that the proposed West Front plan would present an unbroken wall along the west side and would change the proportion and appearance of the two great flights of stone steps leading down from the west side toward the city.

Actually, the outcome isn't much in doubt: What the Vice-Presidential group wants, it will most likely get.

The Architectural Lobby — A number of other developments in the capital were of importance to the profession and closely related to the Capitol furor in that they demonstrated how strongly architects have impressed themselves on the Governmental conscience.

Item one was the unanimous selection (by a reconstituted committee considering a memorial to the late President Franklin D. Roosevelt) of Marcel Breuer to prepare a new design for a monument in the city's West Potomac Park (see p. 47, JULY 1966 P/A).

Item two was Senate approval of a resolution okaying a revised plan (modified as a result of public protest) for Pennsylvania Avenue — a move to make the street the "grand avenue" envisioned by city planners, by cleaning out nondescript buildings along the north side of the street, and construction of a large "National Square at 15th Street."

Item three was appointment of George T. Rockrise (of Rockrise & Watson, San Francisco) as "Adviser to the Secretary" (of Housing and Urban Development) on design. Idea is to help improve the quality of design in all Federally-assisted urban renewals and housing programs. No "national standards" will be set; instead, local groups are to be encouraged to show a greater concern for aesthetics.

In line with the furor over the Capitol, and the move by HUD to get top architectural advice, architects should take note of the newly-introduced "Federal Fine Arts and Architecture Act" (S. 3521), authored by Senator Muskie of Maine.

This legislation would provide the General Services Administration and the Post Office Department with expert architectural advice, through creation of an "Architectural Advisory Board" and an "Art Advisory Board" in the GSA, to function in somewhat the same manner as Washington's Fine Arts Commission, in advising and approving architecture in the city. Boards would be chaired by the same man: GSA's Assistant Commissioner for Design. Members would be "distinguished artists and architects."

Air Rights Buildings — Efforts at a massive Federal drive for urban housing built over and within the right-of-way of freeways in cities seem to have died aborning, after arousing a lot of criticism (as well as some praise) — mostly from social scientists.

The idea isn't new, of course, and there are many examples of "air rights" buildings in U.S. cities — notably in New York. It was given impetus a while ago by Washington's "city fathers" (the Board of Commissioners who run the city when Congress isn't doing that), who thought that provision of new housing in the wide right-of-way for planned freeways would solve the increasing problem of displacement of residents (mostly low-income) to make room for automobile access.

Bureau of Public Roads immediately jumped into the discussion with a lengthy "background memo" for editors, outlining its own long-standing hopes in this area. Briefly, BPR thinks a planned use of freeway right-of-way can be an asset to a city, with a proper "mix" of business, residential structures, plus parks and open spaces. Problem, for the highway builders, is the cost and restrictions on land taking in urban areas, which restrict design capacity of the highways they build; and the very bad public relations "image" that land-taking and displacement of families always brings. What the Roads Bureau wants to do is acquire entire blocks through a community (not narrow strips), and rebuild them as planned developments along with the highway.

Congress doesn't seem terribly concerned over the problem at the moment — the upcoming elections, war, and funding loom much larger.

Financial — Despite a sharp decline in private housing construction, the total construction economy continued on its booming way in early summer. In May, according to the Census Bureau, value of new construction put in place was $6.6 billion — up 10 per cent over April and 6 per cent over the previous year. (Census, by the way, is considering discontinuing this monthly barometer in favor of a quarterly report.)

- Housing was down again in May — to an annual adjusted rate of 1,300,000 units, compared to 1,500,000 a year ago. Coupled to the decline were reports from HUD and the Commerce Department indicating that sales of new one-family homes in April totaled 530,000 units—down 5 per cent from a year ago. Most realtors blame the continuing decline on higher costs of borrowing money.
- But the general public wasn't flagging in its support of public works construction. In April, taxpayers approved $307,700,000 worth of new bond issues (75 per cent of all issues presented), $150 million of this amount for educational purposes.

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PRODUCTS

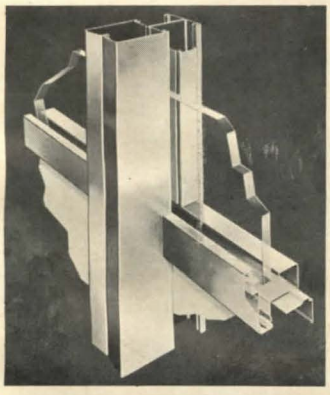
AIR/TEMPERATURE

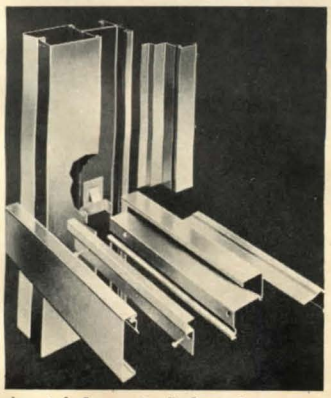


Plug-in hot water heater provides heat without plumbing, and fits in the toe space under kitchen cabinets — 3½″ high x 22″ wide x 14″ deep. Air is drawn into the unit at the center of the grille and passed over the hermetically sealed copper tubing, which contains an electric heating element, water, and anti-freeze solution. After heating, air is circulated out of each end of the grille. Heater is thermostatically controlled. International Oil Burner Co., 3800 Park Ave., St. Louis, Mo.

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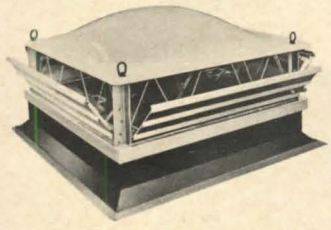
CONSTRUCTION





A stainless-steel framing system for curtain-wall construction, developed by engineer-designer Abe Grossman for U.S. Steel Corp., is said to reduce manufacturing and on-site erection costs. U.S. Steel says that "Ultimet" will be competitive "on all fronts" with other materials. The system uses seven roll-formed shapes with tolerances that will assure mate-fitting of parts. All members are nickel-chrome stainless alloy, AISI Type 304. The strength of the stainless-steel shapes supports the curtain-wall system, which is suitable for both low- and high-rise buildings. Mullions, available 3½″, 4½″, and 5½″ deep, need one anchor point at each floor, and are extended vertically one on top of another; horizontal members are locked into place with concealed spring-clip fasteners, leaving no exposed connectors. Fixed glass or curtain wall panels are held by vinyl or neoprene gaskets, and may be installed either from the interior or the exterior. Static and dynamic weather testing requirements have been met. United States Steel Corp., 525 William Penn Place, Pittsburgh, Pa. 15230.

On Readers' Service Card, Circle 101

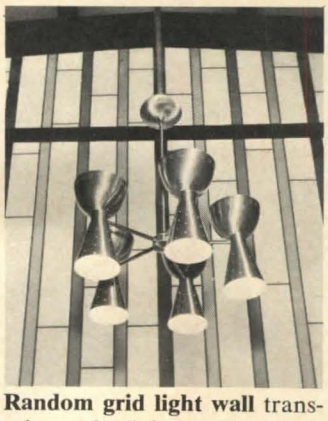


Modular skylight can combine a choice of several air-handling devices. It can be equipped with smoke vent and supply fans, or, if the air is more polluted inside than out, it is available with roof exhauster and smoke vent. Unit can be supplied with only one of these features. White, butyrate bubble tops a steel frame carrying the intake or exhaust equipment. Jenn-Air Corp., Indianapolis, Ind.

On Readers' Service Card, Circle 102

Five plastic prism patterns for luminous ceiling panels are said to transmit more light than the average lens, thereby reducing the number of lamp fixtures necessary. Some patterns spread light while others direct it downward; sheets are acrylic or polystyrene, clear and white translucent. Polystyrene plastics are chemically coated to reduce yellowing and embrittlement. Sample card available. Artcrest Products Co. Inc., 255 W. 79 St., Chicago, Ill. 60620.

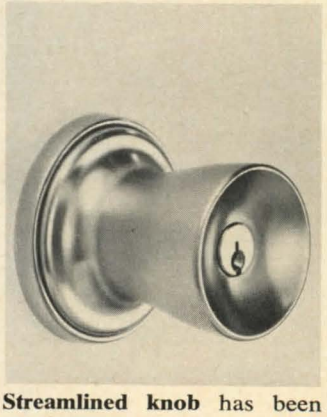
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Random grid light wall transmits soft light to interiors. Translucent glass-fiber-reinforced polyester faces are bonded to aluminum-grid core. This panel provides a U factor of .24 Btuh. Four-ft-wide panels can extend up to 14′ without intermediate support. Standard faces are clear outside and white inside, but color inserts are available. Butler Mfg. Co., 7400 E. 13 St., Kansas City, Mo. 64126.

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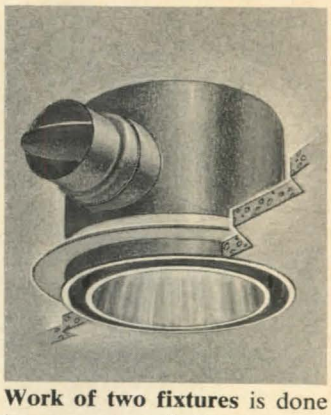
DOORS/WINDOWS



Streamlined knob has been combined with the rose in a contemporary piece of door hardware suitable for use where dirt-collecting crevices must be eliminated. One-piece design also provides a comfortable grip and reduces friction wear. Stainless steel, wrought brass, and bronze in all standard finishes. Knob dia., $2\,^{3}/_{32}$″; trim, 2⅞″ dia. Schlage Lock Co., San Francisco, Calif.

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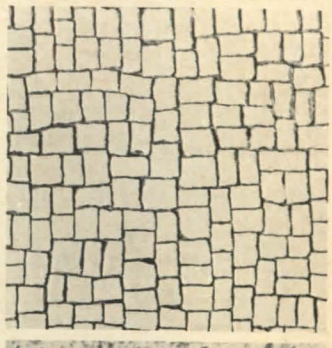
ELECTRICAL EQUIPMENT

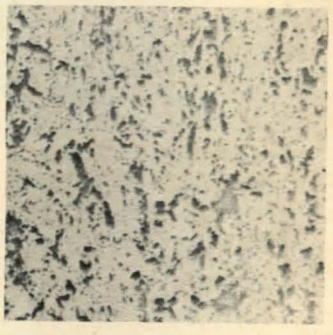


Work of two fixtures is done by one — a unit for recessed incandescent lighting and air handling. Designed for horizontal air distribution (either supply or return), it is fitted with a duct damper adjustable up to 200 cfm. Also suitable for use with plenum system, the housing is accessible and removable from above or below the ceiling. Unit is U.L.-approved for both heating and cooling applications. Lighting fixture uses 150–300w, type R-40 lamps. Matching units available with loudspeaker. Finish trim is matte white; air housing interior, black. Prescolite Mfg. Corp., 1251 Doolittle Dr., San Leandro, Calif.

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FURNISHINGS



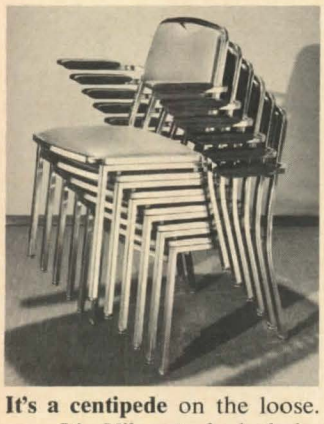


Twenty-three new patterns and colors for 1966 make a total of 33 available combinations from Tapiflex, including a good travertine and "Palma" (shown). A live fiber base melded to a heavy layer

of vinyl provides resiliency; manufacturer claims "independent tests show Tapiflex superior to other vinyl floorings in wearability and heat and sound absorption." Tapiflex Div., The Felters Co., 210 South St., Boston, Mass.
On Readers' Service Card, Circle 107



Interchangeable arm cushions and interchangeable back and seat cushions double the life of the nylon-wool blend upholstery on a chair designed by architects Hellmuth, Obata & Kassabaum. Laminated wood or aluminum members provide a strong frame. Available as single unit or as component lounge system, which includes chairs with and without arms, in seating and seating-table arrangements. Lehigh Furniture Corporation, 16 E. 53rd St., New York, N. Y.
On Readers' Service Card, Circle 108



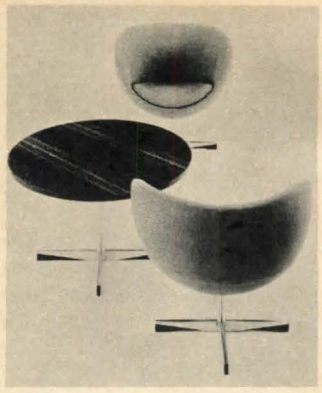
It's a centipede on the loose. . . . It's Viko stacked chairs in polished chrome, walnut, or platinum finishes, available with or without arms. At the top of the frame is a built-in handle for mobility; under the seat are four buttons to avoid crushing in stacking. Both back and seat are filled with urethane foam, and are covered in heavy-duty vinyl, available in 20 colors. To prevent food or other particles from gathering, the chair seats are upholstered without welting. Baumritter Corporation, 205 Lexington Ave., New York, N. Y.
On Readers' Service Card, Circle 109



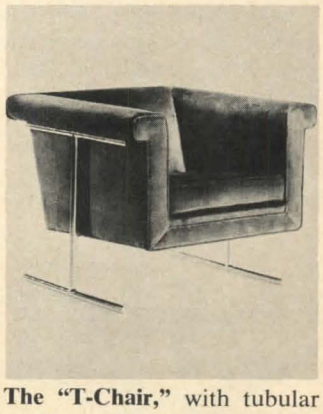
The Peter Murdoch Child Chair, made from one sheet of high-impact plastic-coated fiberboard, is both a useful piece of furniture and an intriguing toy. It can support up to 500 lb, yet weighs only 3 lb, and can be toted here and there by children. It has a nontoxic coating, smoothly rounded edges, and is easy to wipe clean. It is white, with blue, green, or orange polka dots. Designer Murdoch claims that it is almost impossible to break. The Greg-Gary Corporation, 6 E. 79th St., New York, N. Y.
On Readers' Service Card, Circle 110



New patterns of asbestos floor tile, embossed travertine, wood, marble, and pebble are enhanced both by the background mottling of the tile as well as by the embossing, which is inked in a compatible color. All tiles are available in $^1/_{16}$″ gage, 9″ x 9″ size. Patterns are claimed to be greaseproof, stain- and alkali-resistant, and easy to maintain. Azrock Floor Product, P.O. Box 531, San Antonio, Tex.
On Readers' Service Card, Circle 111



Swivel into orbit on the Planet Chair, designed by Sven Dysthe of Norway. Swivel pedestal is chromed steel with teak or rosewood fillers, which make up half the cruciform base. Upholsteries available are leather, imported wool fabrics, or Skailflor vinyl. Low round table (diameter: 35½″, height: 18″) with teak or rosewood top is a companion piece. Frederick Lunning, 667 Fifth Ave., New York, N. Y.
On Readers' Service Card, Circle 112



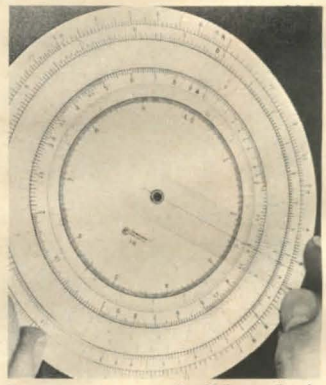
The "T-Chair," with tubular cradles of chromed steel, really appears to hang in space like a cushioned swing. The foam-filled, overstuffed seating element is an interesting contrast to the light supports. The chair is welded to the supports by tabs beneath the seat. A companion love seat and sofa are also available, featuring the same I-shaped cradles, turned on their sides. Tech Furniture, Inc., 2 Main St., Bridgeport, Conn.
On Readers' Service Card, Circle 113

Uniline's combination unit for storage, studying, and sleeping saves space and footsteps. It features six extra-width drawers for under-the-bed storage, two complete desks, with bookshelves, and built-in desk lamps (wardrobes can be added) — all within easy reach of each other. The unit is built on a modular system with an anodized aluminum framework, and panels tied to it by concealed connecting system. Solid core panels have 40–41 lb density particleboard and Westinghouse Micarta surfaces. J. R. Chapman Company, 950 28th St., S.E. Grand Rapids, Mich. 49508.
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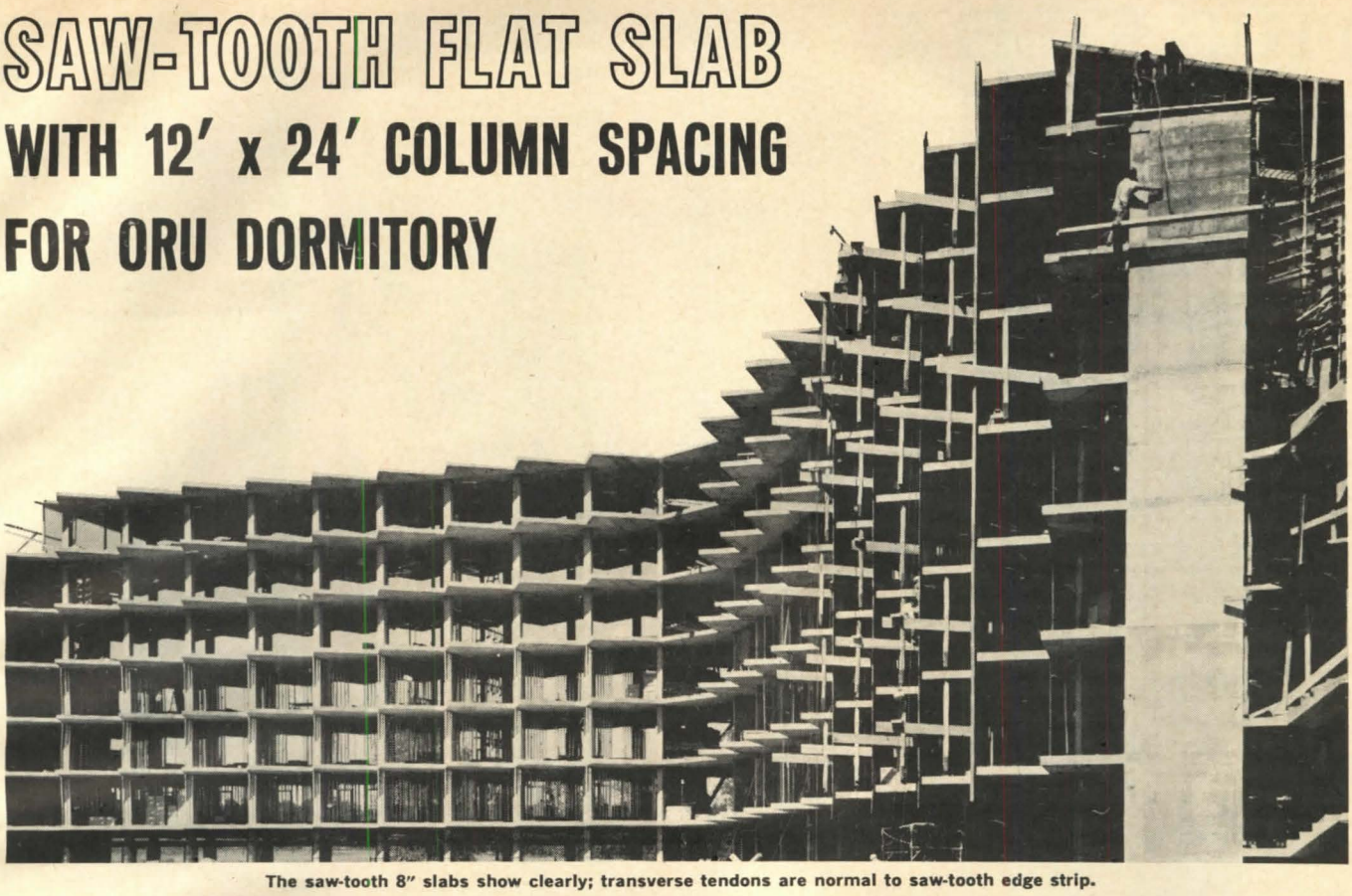
Panelcarve has come up with a carved door which, for a change, has no Spanish allusions. Frames are solid mahogany; panels are carved from redwood or mahogany. All designs are ready for immediate delivery and can be purchased without frames for shop application as architectural details or on furniture, headboards, and elsewhere. Forms & Surfaces, Panelcarve Division, Box 5212, Santa Barbara, Calif.
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OFFICE EQUIPMENT



Low-cost, round slide rule is a convenient office aid. Manufacturer's recommended list price is 99¢ for the 4½″ (A, B, C, C1, D, K, and L scales), and $1.89 for the 6″, which incorporates the S, L, and T scales on the back of the base dial. Upper transparent disc has the B, C, and C1 scales printed in red for color contrast to aid scale setting. Lamination is said to insure

SAW-TOOTH FLAT SLAB
WITH 12′ x 24′ COLUMN SPACING
FOR ORU DORMITORY



The saw-tooth 8″ slabs show clearly; transverse tendons are normal to saw-tooth edge strip.

The floor framing for this Oral Roberts University Dormitory is an 8″ thick prestressed flat slab, post-tensioned using the Prescon System. The saw-tooth floor plan has columns recessed 2′ 10″ in from the re-entrant corner with the teeth of the saw projecting 5′ 3″ from the re-entrant corner. Columns are spaced 24′ transversely and 12′ longitudinally with tendons running diagonally.

The Prescon tendons are spaced on a one to two slope with the transverse column line, with the column strip tendons extending to the tips of the saw teeth. This rotation of the Prescon tendons permitted principal cantilever reinforcement to become part of a column strip for maximum stiffness in the floor. The structural analysis was based upon load balancing applied to a flat plate. In effect, it is a pure membrane analysis. Tendons varied from 3 to 10 wires. In each 12′ increment of floor, 8 tendons running the full width were used and 2 short tendons over the columns. All slabs were cast-in-place with an entire slab completed in a single concreting operation. The average prestress was 300 psi transversely and 150 psi longitudinal. The structure has performed in a most satisfactory manner.

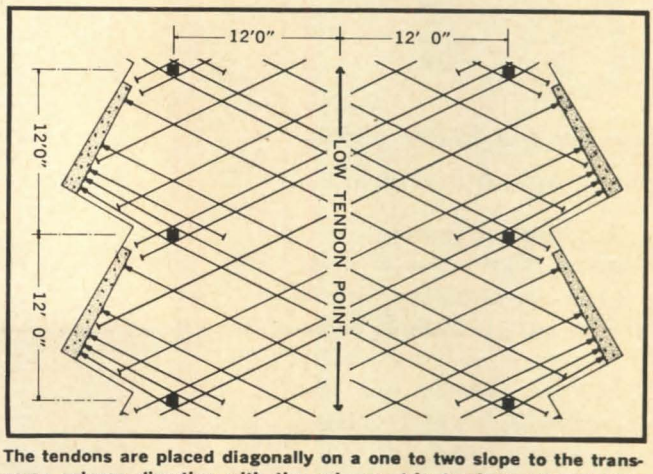
The three wings radiate from a hexagonal 30′ core which houses the elevator, lounge and stairs. Each wing is 40′ wide by 120′ long. Floor-to-floor height is 9′ 4″ except for the ground floor where height is approximately 11′.

This is first of three planned dormitories. Each will be seven levels including the ground floor. Grade level includes lounges, game rooms, etc.; each of the other floors include an apartment for the house mother, laundry and linen facilities, baths and living quarters for 100 students. Floors are carpeted except for terrazzo in toilet areas. The underside of the slab serves as the ceiling and is a sprayed texture coating.

The architect for the project was Frank William Wallace, AIA; engineers were Netherton, Dolmeyer, Solnok; and the contractor was Manhattan Construction Company.

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Among the advantages gained by using the Prescon System of post-tensioning prestressed concrete are: flexibility of column spacing, thin slabs with no deflection, and waterproofing of slabs when desired. For the complete story on the advantages to owners, architects, engineers and contractors using the Prescon System, write for brochures and the Prescon NEWS.



The tendons are placed diagonally on a one to two slope to the transverse column direction with the column strip tendons extending to the tips of the saw teeth. Structural analysis was based upon load balancing applied to a flat plate.

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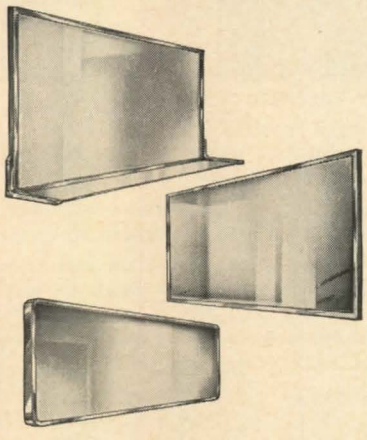
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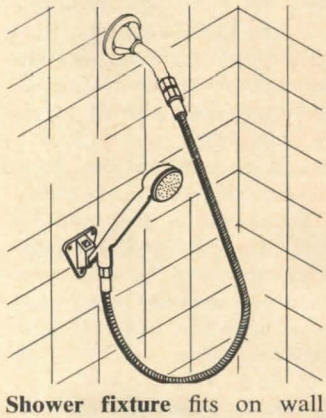
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permanency of the printing. The C-Thru Ruler Co., 823 Windsor St., Hartford 1, Conn.
On Readers' Service Card, Circle 116



Plastic channels that grip loose sheets of paper together, make punched holes and fasteners unnecessary. Colored channel clips are available in 8½" and 13" lengths. The ⅛"-wide clips hold 30 pages; 5/16" hold 75. Devoke Co., 510 S. Mathilda Ave., Sunnyvale, Calif. 94086.
On Readers' Service Card, Circle 117

SANITATION PLUMBING



Shower fixture fits on wall bracket when used as a fixed shower head, or lifts off for use as a flexible hand-held unit. Manufacturer recommends installation especially for nursing homes and senior citizen projects. Flexible hose is stainless steel and head is plastic. Unit may be attached to special tub spout, or shower arm (shown), or, with a diverter, to existing shower head. T & S Brass and Bronze Works, Inc., 128 Magnolia Ave., Westbury, N. Y.
On Readers' Service Card, Circle 118

SPECIAL EQUIPMENT

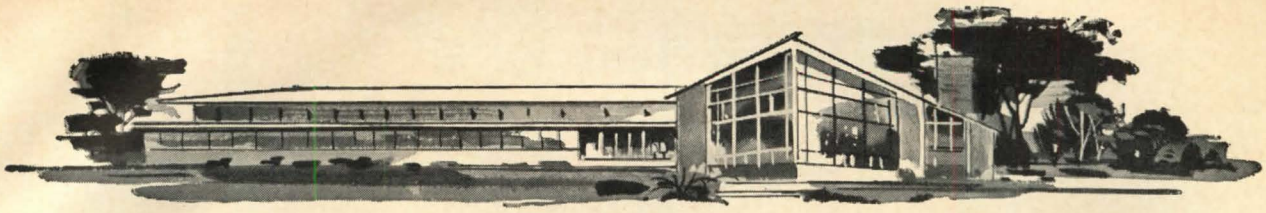
Fire detection and alarm units for commercial and public buildings are powered by Du Pont Freon, and require no wiring or batteries. Each unit is fully self-contained and automatic. Manufacturer says an exposed heat sensitizer reacts fast to actuate the alarm. Sight glass permits visual inspection of contents of Freon chamber. Falcon Alarm Co., Inc., Fire Detection Div., 21 Stern Ave., Springfield, N. J.
On Readers' Service Card, Circle 119



Feeling nostalgic? This street clock, originally built by the Howard Clock Company during the last century, is again in production. Base, post, and head are cast iron, as they were before; even the dial works follow the 100-year-old design. Manufacturer reports that the gears are made on an engine built by the original maker in 1872. Internal electric lighting is the only modern innovation, although electric synchronous drive is optional. Charles Graf, 101 Serpentine Rd., Tenafly, N. J. 07670.
On Readers' Service Card, Circle 120



Fountain in an eggshell, designed by Horace Hayden of Curtis & Davis, New Orleans, is cast "Tenzaloy" aluminum. The 7R's finish is abrasion-resistant and hard-anodized to a permanent muted bronze color. The fountain has been designed to withstand tampering and damage from vandals. Haws Drinking Faucet Co., 4th & Page Sts., Berkeley, Calif. 94710.
On Readers' Service Card, Circle 121



FOR DOOR CONTROL designed to meet every school building need

CHOOSE NORTON CLOSERS AND UNI-TROLS

Any door within a school can have unique or special requirements. These doors by their location, traffic pattern, adverse environment or esthetic requirement can pose a problem in the selection of proper door control.

Norton makes the most complete line of surface-mounted door closers and unitized door controls. When you specify Norton controls, you can choose from a selection of types that have been designed to meet all of the specific needs of your school doors.



PRESIDENT'S DINING ROOM



POOL DIRECTOR'S OFFICE

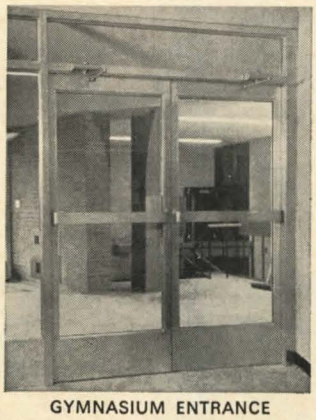


CAFETERIA ENTRANCE

Series 7000 narrow projection door closers with covers; aluminum covers to match door hardware, wood covers to match door paneling. PRESIDENT'S DINING ROOM for the elegance of matching wood. An attractive closer installation for this formal dining room. POOL DIRECTOR'S OFFICE, an aluminum closer with an aluminum cover for an attractive installation that's impervious to this corrosive high humidity location. CAFETERIA entrance, a match between closer cover and door hardware to contrast with the dark door finish.

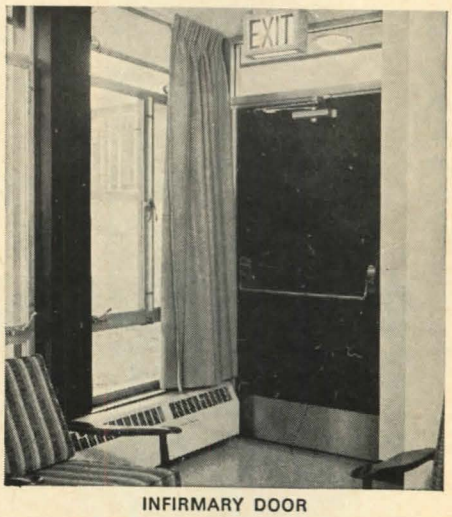


PATIO ENTRANCE



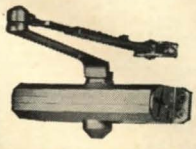
GYMNASIUM ENTRANCE

Series 1600 Tri-Style Closers to match the narrow lines of modern aluminum doors. PATIO ENTRANCE, an attractive installation invisibly mounted to the top jamb providing control for this outside door. Even with a prevailing west wind, the door is under control at all times. GYMNASIUM ENTRANCE, positive consistent control even during the heavy traffic through these high frequency doors.



INFIRMARY DOOR

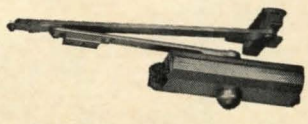
Series 6100 Uni-Trol door control, a combination of door closer and door holder. INFIRMARY DOOR, an attractive installation in the school infirmary. During open hours, the door is held ajar to avoid congestion.



SERIES 1600
Tri-Style®



SERIES 7000



SERIES 6100

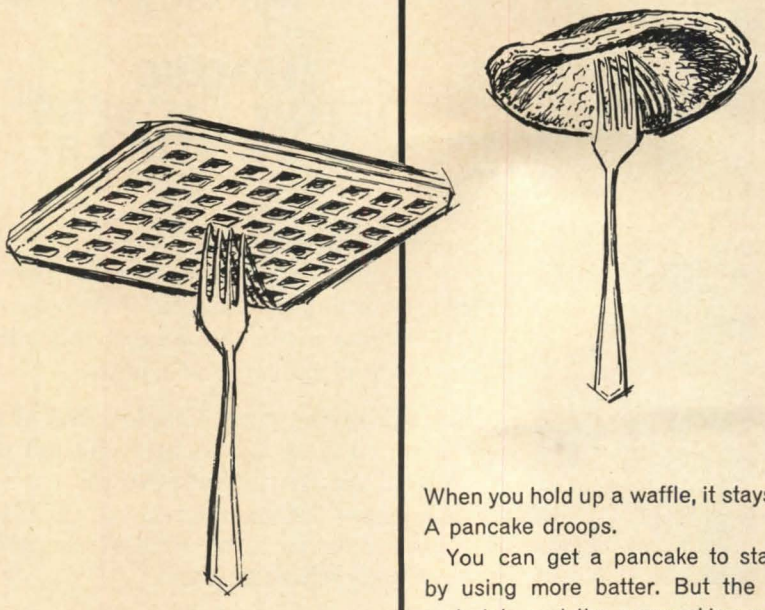
1117

EATON YALE & TOWNE INC.

NORTON® DOOR CLOSER DIVISION
372 Meyer Road, Bensenville, Illinois, 60106

On Readers' Service Card, Circle No. 426

Waffles are stiffer than pancakes.



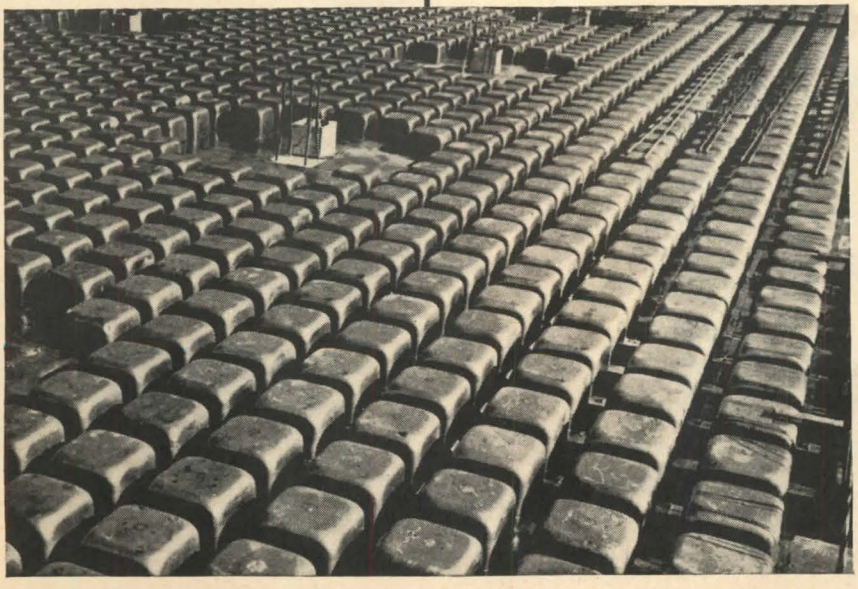
When you hold up a waffle, it stays flat. A pancake droops.

You can get a pancake to stay flat by using more batter. But the extra materials and the overcooking add to the cost of the breakfast.

Reinforced concrete floors are similar. Use a waffle system and you stiffen the floor. The deeper the square voids in the waffle system, the stiffer the floor and the more materials saved... And the farther apart you can place the columns without overloading the system.

Appropriately, we do our waffle forming on a flat fee. This usually proves to be much less than the general contractor would spend to form the floors himself. With a Ceco quotation, you and your contractor have a firm cost before building starts. There are no variables such as insurance, overhead, labor, lumber, and form conditioning. The Ceco quotation includes all these. Your contractor is not subject to a sudden piling up of hidden costs. Tell him so.

Get full particulars about Ceco's Steeldome Service, for you and your contractor. Write for literature. Also see Ceco's Steelform catalog in Sweet's. The Ceco Corporation, general offices at 5601 West 26th Street, Chicago, Illinois 60650. Sales offices and plants in principal cities.



CECO
STEELDOME
SERVICE

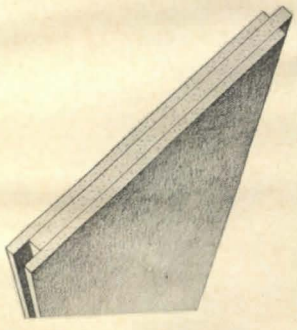
On Readers' Service Card, Circle No. 333

MFRS' DATA

AIR / TEMPERATURE

Registers, grilles, diffusers, intakes, dampers and ventilators for floor, ceiling, wall, door, and baseboard installation in commercial and residential heating and air-conditioning systems are catalogued in a well-indexed booklet giving dimensions, finishes, prices, and photos. Fabricated with steel or aluminum, the components incorporate air-foil design to reduce air flow resistance. 58 pages. A companion "Technical Manual" contains cfm/size charts giving pressure loss, throw, and velocity for the registers, grilles, etc. 40 pages. United States Register Co., Battle Creek, Mich.
On Readers' Service Card, Circle 200

CONSTRUCTION



A look of permanence in a movable partition system is made possible by omitting studs and posts. Wall panels are held in place by floor and ceiling runners. Partitions may intersect at any point; door openings can be cut at any point, and walls will support cabinets, lavatories, etc., according to manufacturer. Standard panel consists of a 24″ wide x 1″ thick gypsumboard laminated between two ⅝″-thick gypsum panels — the center board being slightly offset to form a tongue and groove. Two other wall types are fabricated from the same materials: a semisolid "Chase Wall" with 6″-wide core strips, and a sandwich of two Chase Walls with a 1⅜″ air space for extra sound insulation. Two heights, other than floor-to-ceiling, are available, and units may be fully or partially glazed. Surfacing includes vinyl and wood veneer. Simplicity of design is said to make relocation quick and easy. Details, photos, specs. 20 pages. Vaughan Walls, Inc., 11681 San Vicente Blvd., Los Angeles, Calif. 90049.
On Readers' Service Card, Circle 201

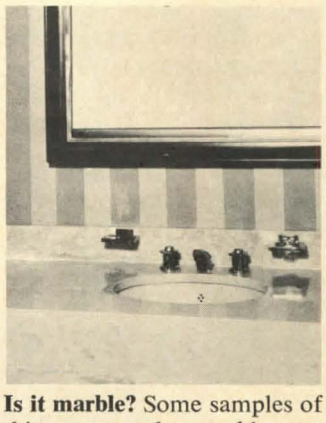


Brick's tricky glazes make like speckled eggs — with corners. Many colors, some bright, some grayed down. Solid colors also available. Four sizes. Specifications, size chart for special shapes, color photos. 12 pages. Darlington Brick, General Dynamics Corp., 300 W. Washington St., Chicago, Ill. 60606.
On Readers' Service Card, Circle 202



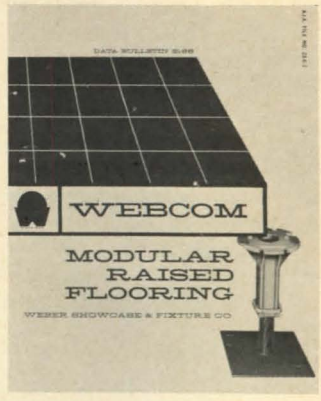
Comprehensive booklet on built-up roofing devotes 8-page section to "T/NA 200" membrane — a polyvinyl fluoride film laminated to asbestos felt. This recently developed membrane is recommended for unusual roof shapes because of its elasticity and pliability. Short specs, materials list with weight per 100 sq ft, and a cutaway view are given for the T/NA 200 and several other felts as they are used in roofing — insulated, nailable, non-nailable, lightweight poured, and wood fiber decks of varying thicknesses. Well indexed. Flashing and construction details, descriptions. The Ruberoid Co., 733 Third Ave., New York, N. Y. 10017.
On Readers' Service Card, Circle 203

Compounds for sealing cracks in different materials, including structural concrete, masonry, metal, and around glazing, are charted in a folder giving descriptions, areas of application, and the major Federal and state specifications each product complies with. Short application instructions are given for each product. 4 pages. Presstite Div., Interchemical Corp., 39th & Chouteau, St. Louis, Mo. 63110.
On Readers' Service Card, Circle 204

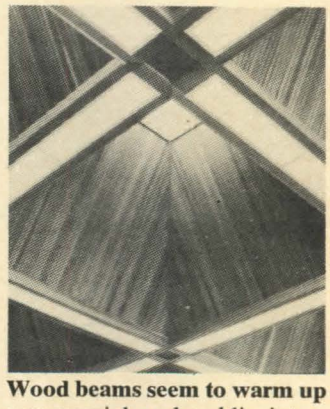


Is it marble? Some samples of this man-made marble are convincing, others are not. The material is 90% quarried marble, with hardening agents added. A variety of colors and products, including lavatories, bathtubs, floor and wall tile, countertops, and wainscoting, are available. It is said to be unusually tough as well as stain- and heat-resistant; brochure devotes 2 pages to test results. Photos, descriptions. 8 pages. Venetian Marble Co., P.O. Box 20362, Dallas, Tex.
On Readers' Service Card, Circle 205

Guide specs for the selection and application of polysulfide-base sealants are prefaced by notes for the specifier on materials, samples and testing, and application. Four guide specifications are given: (1) Calking and Sealing; (2) Glass and Glazing; (3) Metal Curtain Wall; and (4) Calking and Sealing of Deck and Paving Joints. Five-page glossary of terms concludes booklet. 28 pages. Thiokol Chemical Corp., Chemical Div., Trenton, N. J. 08607.
On Readers' Service Card, Circle 206



"Modular Raised Flooring" describes panel floors installed on pedestals alone or on pedestal and stringer grid. Panels are 24⅜″ plywood or particleboard squares bonded on both sides to zinc-coated steel and topped with vinyl tile, carpeting, or other flooring materials. Company also manufactures an adjustable, perforated panel for air flow from an air-conditioning unit that discharges air into the plenum under the floor. Especially suitable for computer and clean rooms. Installation details, dimensioned drawings, specifications. 12 pages. Weber Showcase & Fixture Co., 1340 Monroe Ave. NW, Grand Rapids, Mich. 45902.
On Readers' Service Card, Circle 207



Wood beams seem to warm up commercial and public interiors. Booklet is illustrated with color photos of existing buildings and interiors using manufacturer's laminated beams and arches, planks, decking, and paneling. Descriptions and credits. 12 pages. Another publication from Weyerhaeuser is a prestige brochure with a handsome cover by designer Gyorgy Kepes of M.I.T. Kepes is also author of

the lead article on the philosophy of structure; this is followed by a photo essay on Bernard Maybeck's (California architect, 1862–1957) use of wood, and a short treatise on the rebuilding of the Stoa in Athens. Weyerhaeuser Co., Box B, Tacoma, Wash. 98401.
On Readers' Service Card, Circle 208



Side show: brochure on hardboard exterior sidings includes lap and vertical-groove panel sidings in both smooth surfaces and simulated rough sawn — "Ruf-X-ninety." One smooth-surface lap siding is available in white, beige, gray, and green. Revised catalog has installation details, sizes, construction data, and photos. 24 pages. Masonite Corp., Box B, Chicago, Ill. 60690.
On Readers' Service Card, Circle 209

ELECTRICAL EQUIPMENT



Compact wall unit for hospital patients' rooms has many uses. It features two lamps on fold-out arms: a narrow beam reading light for the patient, and a color-corrected lamp for examinations. A light trough along the top provides indirect illumination. Connecting unit is equipped with a nurse call, night light, and convenience outlets. Telephone, remote TV/radio control, and oxygen outlets can also be included. Units may be installed singly or in strips for wards. Booklet gives descriptions, photos, light curves, installation details, and suggested room layouts with dimensions. Sunbeam Lighting Co., 777 E. 14 Place, Los Angeles 21, Calif.
On Readers' Service Card, Circle 210

A report on lighting and air conditioning discusses lamps and luminaires as heat sources and methods of controlling and redistributing the heat of lights. The study, by a committee of the Illuminating Engineering Society, is illustrated with charts and curves showing the results of tests for energy output from different types of lamps, and other technical data tables. Index, glossary, comprehensive bibliography, and a tabulation of lighting and heating/cooling/redistributing systems in 7 buildings. 32 pages. Illuminating Engineering Society, 345 E. 47 St., New York, N. Y.
On Readers' Service Card, Circle 211

FINISHES PROTECTORS

"Du-Lite," a recently developed fluoropolymer enamel for precoating aluminum and steel building components, is said to provide superior resistance to fading, loss of gloss, and erosion. Booklet discusses properties and testing of new coating and gives tables comparing the properties and costs of Du Pont's alkyd, acrylic and vinyl enamels with Du-Lite. Eight colors are now available, including white; other colors are being added. 8 pages. E. I. du Pont de Nemours & Co. (Inc.), 308 E. Lancaster Ave., Wynnewood, Pa. 19096.
On Readers' Service Card, Circle 212

FURNISHINGS

Steel office furnishings are presented in 59-page catalogue by Lyon. All models, accessories, and parts are illustrated and numbered for quick, easy ordering. Numerous plans and elevations suggest different arrangements. To make it easy to compare the two styles, contemporary and traditional furniture sections in the catalogue are prepared in identical format. Lyon Metal Products, Inc., P.O. Box 671, Aurora, Ill. 60507.
On Readers' Service Card, Circle 213

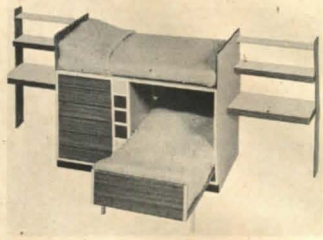


The Pacific Drapery Wall is presented in a 4-page brochure. Discussed are uses, installation, and prices. Photographs show how this metallic drapery has been used as room divider and window curtain. Available in colors of anodized aluminum, sprayed aluminum, or steel wire. Pacific Fence and Wire Company, 2235 S.E. 11th Avenue, Portland, Ore.
On Readers' Service Card, Circle 214

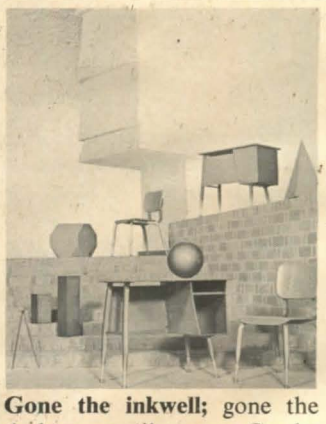
Utilitarian Kreuger Modular seats, of acrylic-enameled steel, are presented with drawings and color photographs in a 38-page catalogue. Also includes information on tables, chair caddies, stools, and coat racks. Kreuger Metal Products Company, Green Bay, Wis. 54306.
On Readers' Service Card, Circle 215

Natural brown rattan, woven over iron, comprises furniture illustrated in Vreeland's catalogue. Settees, swivel chairs, and mushroom stools are described in detail. Among items pictured are some low-cost, comfortable looking chaise-longues and folding chairs. Vreeland Trading Corp., 332 East 28th Street, New York, N. Y. 10016.
On Readers' Service Card, Circle 216

Learn laundry planning from Maytag's primer, "Home Laundry Planning," which provides a useful guide to give clients. Discussed are: suitable locations, minimum requirements and desirable options, advice about buying appliances and other equipment, and the need for counters and storage space. Home Laundry Center, Maytag Company, Newton, Iowa 50208.
On Readers' Service Card, Circle 217



Space-saving suggestions by Uniline, along with specifications on complete dormitory furniture line, are presented in catalogue. Individual sheets show unit arrangement possibilities by means of dimensioned perspective drawings. Also included are construction detail sheets in blueprint form for use in specifications work. Detailed data sheet plus view of typical installations accompanies catalogue. Uniline Corporation, 420 Alabama N-W, Grand Rapids, Mich. 49505.
On Readers' Service Card, Circle 218



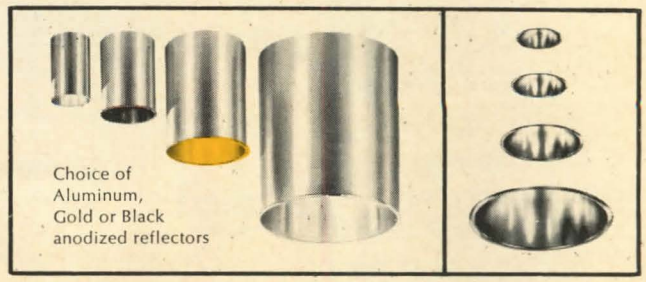
Gone the inkwell; gone the desktop pencil groove. Grade-school pupils now enjoy clean-lined "Junior Executive Desks" in shades of gray-green and coral, and chalkboards in a choice of 9 colors, including powder blue — all engineered, no doubt, to brighten the days of those children trapped inside windowless schools. This classroom furniture (a variety of chairs and desks, besides the executive model) is of sturdy design with steel understructures and heavy-duty plastic or wood-veneer desk-tops, tablet arms, and chair seats and



NEW ART METAL RECESSED & SURFACE ELIPTICONES

Seamless one-piece fixtures of handsome brushed aluminum, in four popular sizes for surface mounting. Plus four sturdy steel recessed fixtures in matching sizes, for flat or sloped ceilings. Elipticone reflector with minimum face trim is a one-piece unit available in your choice of clear anodized aluminum, gold or black to complement any decor. Use with a range of general service reflector lamps for a variety of expressive lighting effects.

Here's a fresh approach to functional downlighting, with a complete size range from 4¼" to 15¼" diameter, and wattages from 30 to 500. Think what you can do with *this* line. Then contact your Art Metal Representative or write Art Metal Lighting Division, 1814 E. 40th Street, Cleveland, Ohio. ITT Wakefield Corporation, a subsidiary of International Telephone and Telegraph Corporation.



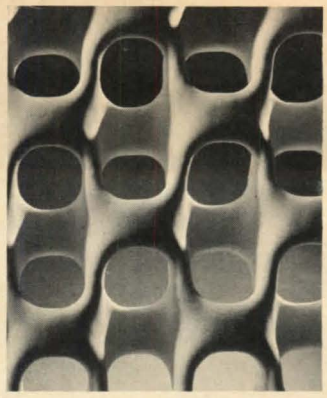
Art Metal Lighting ITT

On Readers' Service Card, Circle No. 413

backs. Available in three grades and price ranges. Manufacturer also fabricates language lab units. Photographs, dimensions, descriptions. 36 pages. American Desk Mfg. Co., Temple, Tex.
On Readers' Service Card, Circle 219

Vin with vinyl by Amtico, whose entire sheet flooring line — including recent introductions of Travertine (4 colors), Empress (7 colors, like terrazzo), Country Squire (vinyl bricks, 4 colors) — is reproduced in color. Complete installation and maintenance instructions are included in the 16-page brochure. Amtico, Trenton, N. J. 08607.
On Readers' Service Card, Circle 220

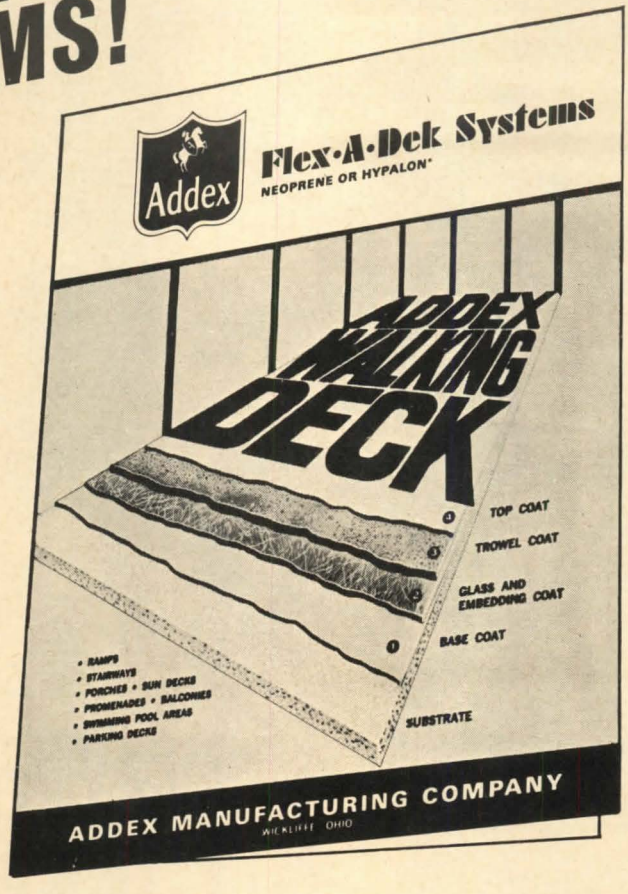
Quality catalogue, issued for the opening of the New Boston Architectural Center, shows wealth of Italian-made tiles available in this country. It also interestingly describes how tiles are made — both patterned and plain — and illustrates uses for them. Italian Trade Commissioner, Boston 16, Mass.
On Readers' Service Card, Circle 221



Sculpta-Grille's sculptured grilles, available in many designs, and useful as light diffusers in front of windows, as space-shapers in wide open areas, and as a means of concealing water tanks on roofs, are shown in an 11-page catalogue. "Half-shell" panels for wall application, and fully modeled panels for open areas, are made of hollow, corrosion-resistant plastic. Harvey Design Workshop, Inc., 74 Prospect Avenue, Lynbrook, N. Y. 11563.
On Readers' Service Card, Circle 222

Hid-n-Wall bed, made of unfinished wood and powered by a ¼-hp motor that raises bed into wall for daytime storage and lowers it for use at night, is presented in 4-page brochure. Includes suggestions and necessary measurements to be met for installation. Practical Products, P.O. Box 513, Danville, Va. 24541.
On Readers' Service Card, Circle 223

NEW WALKING DECK SYSTEMS!



. . . conceived, developed and produced by the industry's leading source of cold process roofing and waterproofing systems! New Addex Flex·A·Dek systems convert waste areas into problem-free, traffic bearing decks. Write for specifications and literature today!

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Addex
ADDEX MANUFACTURING CO.
DEPT. 154 • P.O. BOX 292 • WICKLIFFE, OHIO

☐ Please RUSH me Flex·A·Dek specifications and literature.

MY NAME _____

COMPANY _____

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From Roof Top to Sub-grade, Addex Solves Your Waterproofing Problems!

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INSULATION

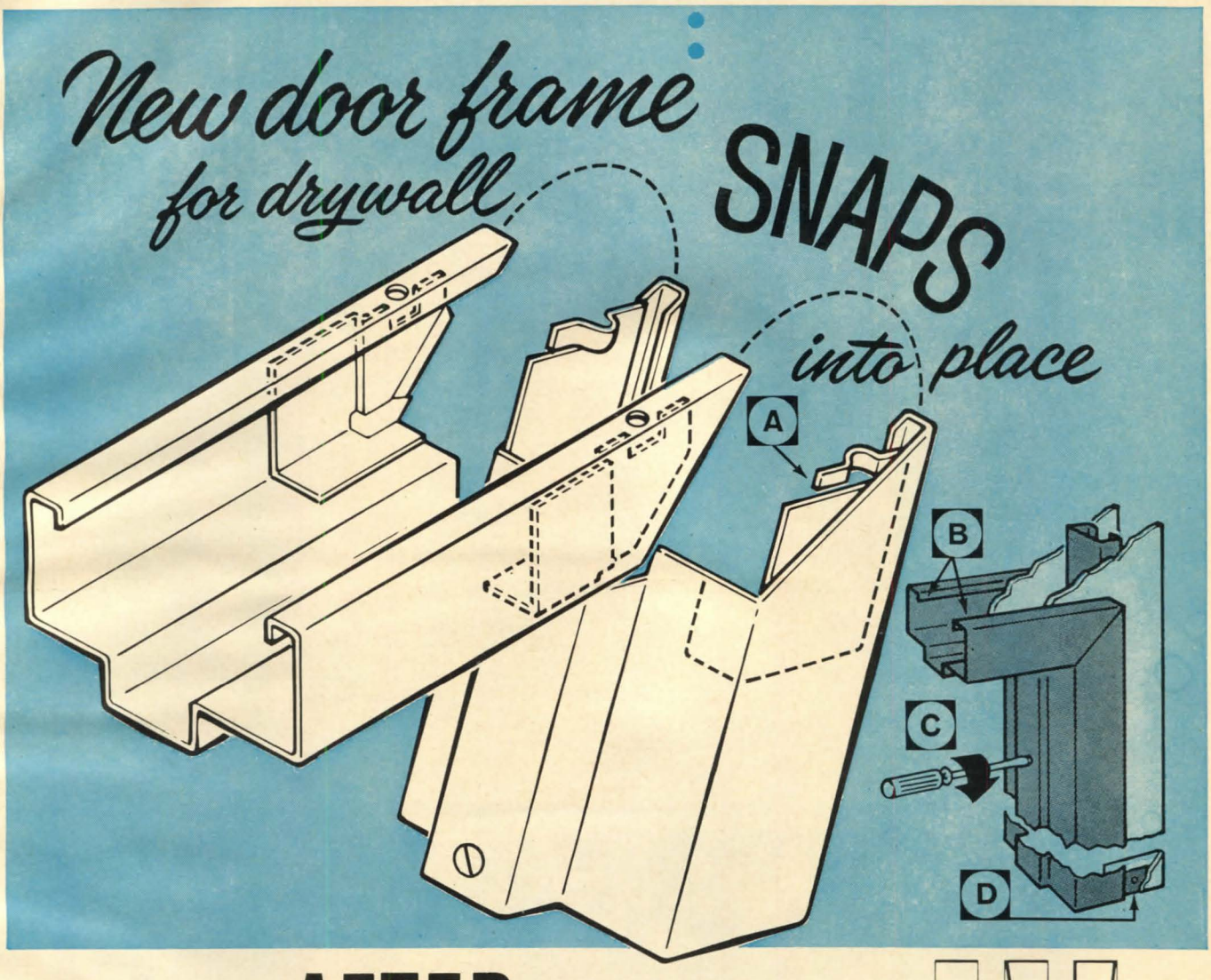


Poured-in-place roof insulation is composed of an expanded volcanic aggregate and a thermoplastic binder. "All-weather Crete" can be applied hot and dry even in freezing weather, according to manufacturer. Brochure gives physical properties, specifications, application instructions, and U factor values for various typical roof/ceiling constructions. Suitable for roof decks, parking decks, ice rinks, and re-roofing, and can be pitched to drains. Silbrico Corp., 5901 W. 66 St., Chicago, Ill. 60638.
On Readers' Service Card, Circle 224

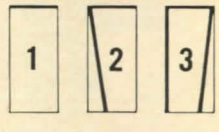
Insulating with plastics is the subject of three pamphlets. "Cellular Plastics in Construction Applications and Fire Protection" discusses test methods, application areas, storage, and material charac-

steelcraft metal door frame idea no. 14 in a series

New door frame for drywall SNAPS into place



. . . AFTER THE WALL IS UP



A Locking tabs,* in precision-mitered joints, lock jambs to header without screws.

B Frame sections, with double return backband, fit snugly over wall without marring it.

C Adjustable jamb anchors* permit easy plumb alignment by screw driver.

D Base anchor attaches frame tightly to base runner for solid installation.

*Patents applied for in U. S. A. and Canada.

This is another of the many advantages gained from the use of Steelcraft metal doors and frames. Write for other ideas . . . and the name of your technically trained Steelcraft distributor.

STEEL Craft®

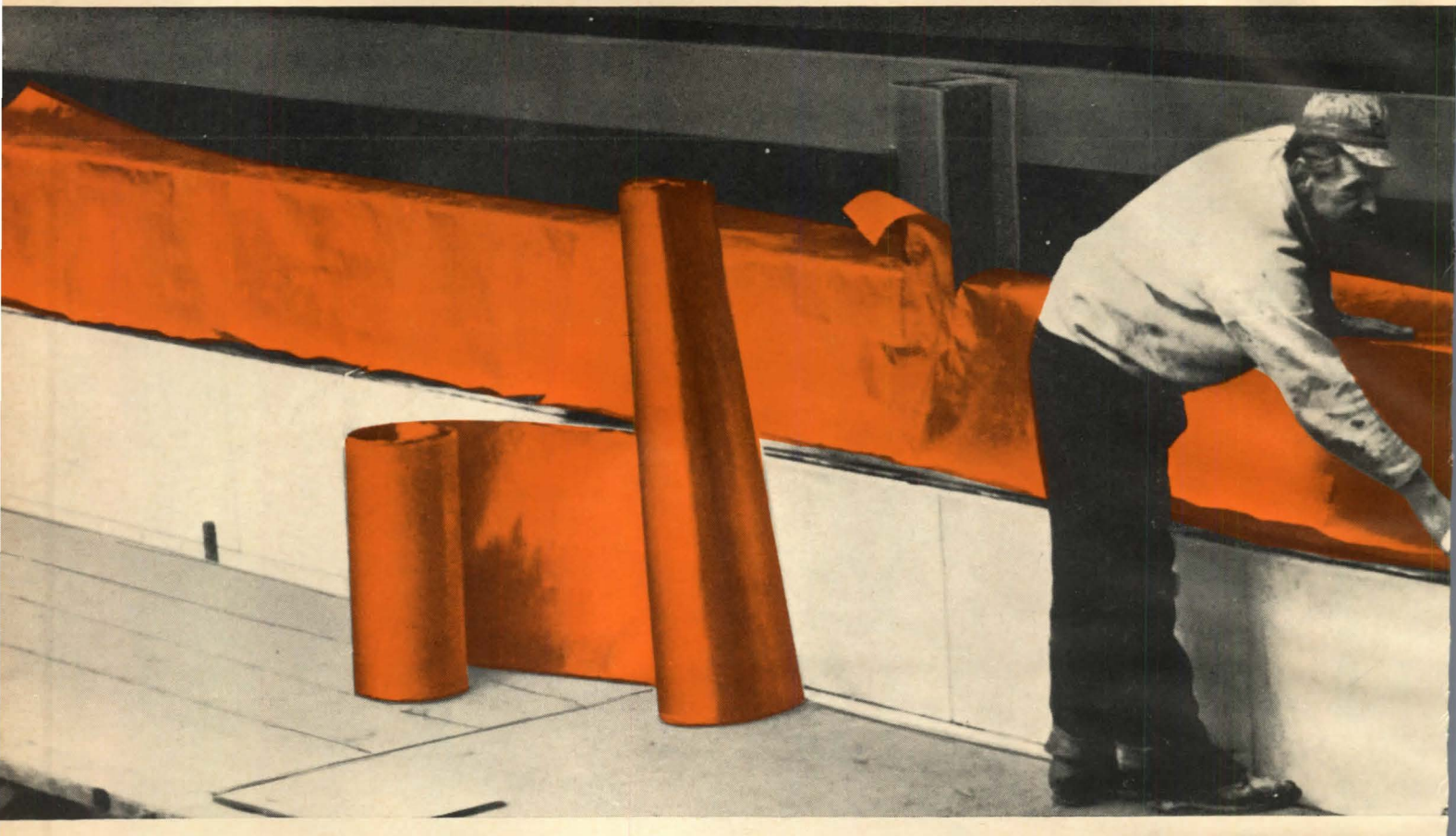
finest name in metal doors and frames

©Steelcraft 1964

The Steelcraft Manufacturing Company, 9017 Blue Ash Rd., Cincinnati, Ohio 45242, U. S. A.
In Canada - Malton, Ontario

On Readers' Service Card, Circle No. 406

Specify Copper Armored Sisalkraft® to keep out moisture:



SPECIFY THESE OTHER CONSTRUCTION PAPERS AND VAPOR BARRIERS FOR MAXIMUM PROTECTION IN CRITICAL BUILDING AREAS



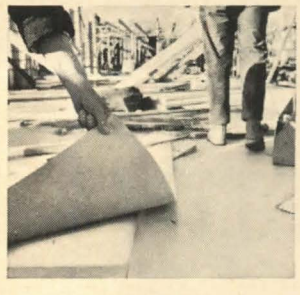
Roof Deck Vapor Barriers

For Class 1 Construction: PYRO-KURE 600. More than twice the vapor resistance of vinyl. Approved by Factory Mutual.
For Other Decks: VaporStop 710. *Single* ply, pre-built barrier (0.28 perm) **at 20% less applied cost** and 80% less weight than 15 lb. felt.



Pyro-Kure

Permanent, noncombustible vapor barriers for pipe jacketing, air conditioning duct insulation and industrial insulation facing: PYRO-KURE® A line of flame-resistant, reinforced laminations with a U/L flame spread rating of "25 or less." Complies with National Building Code standard for noncombustibility.



Curing Papers

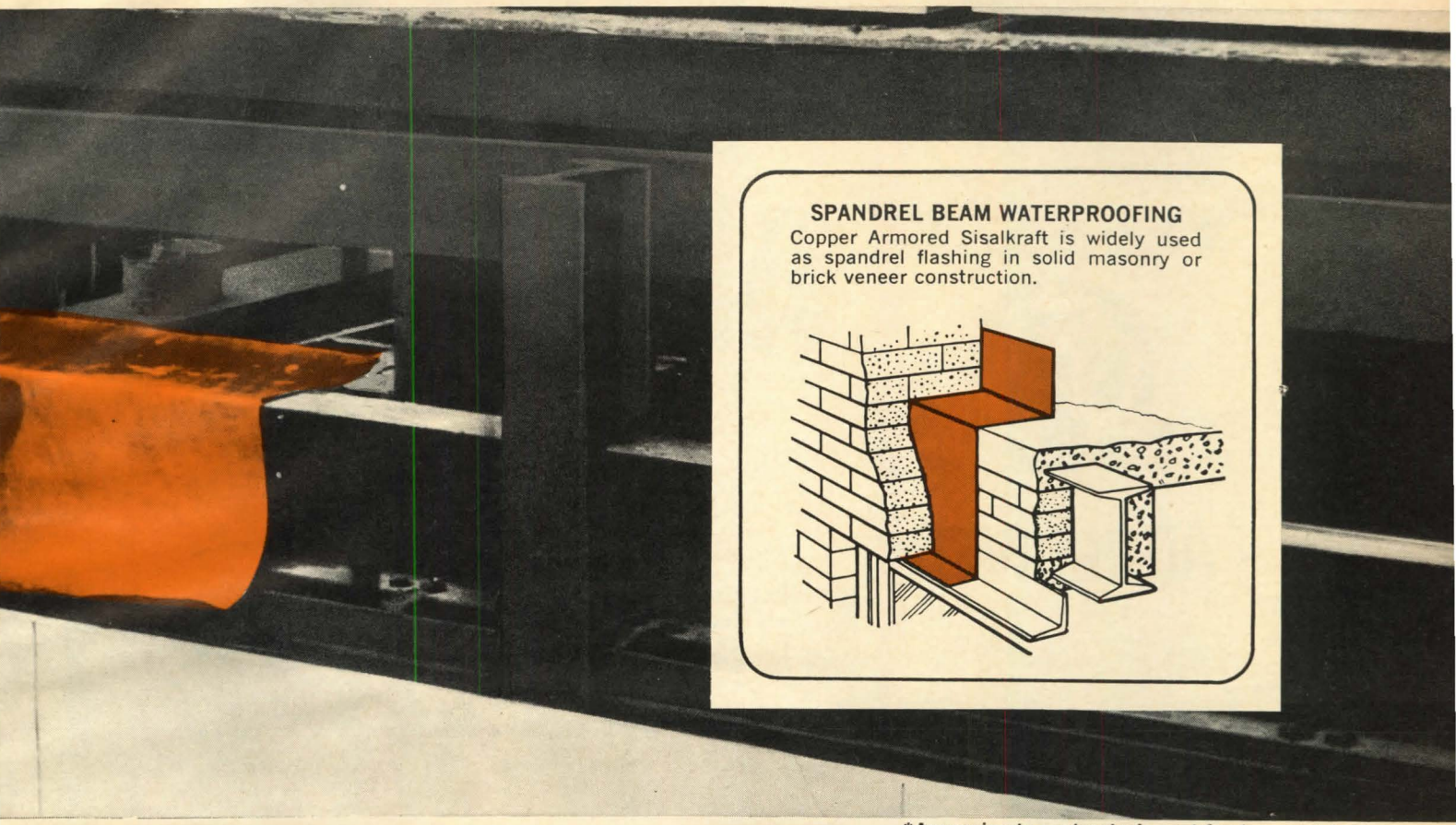
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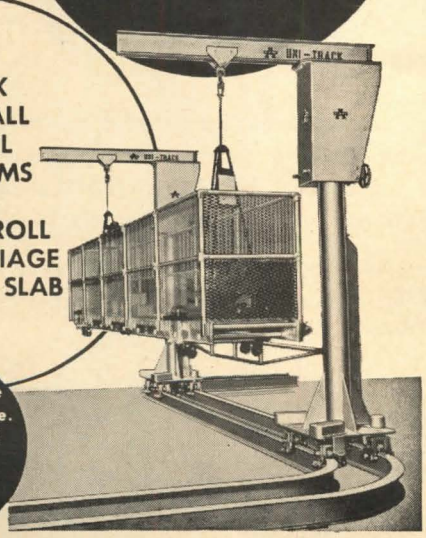
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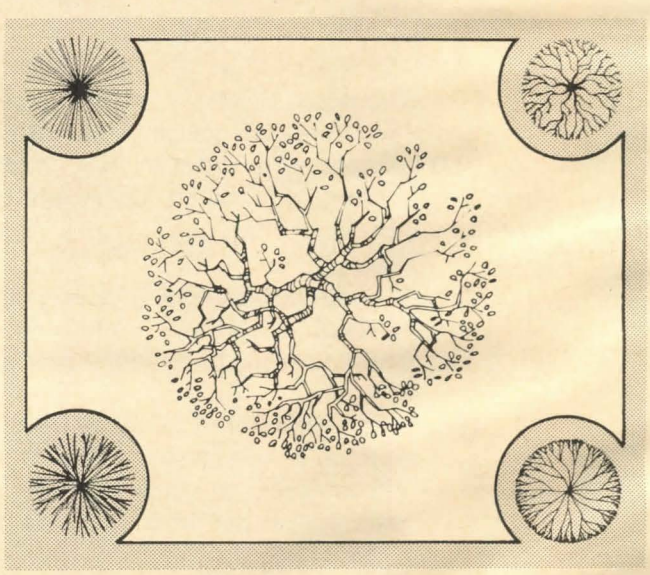
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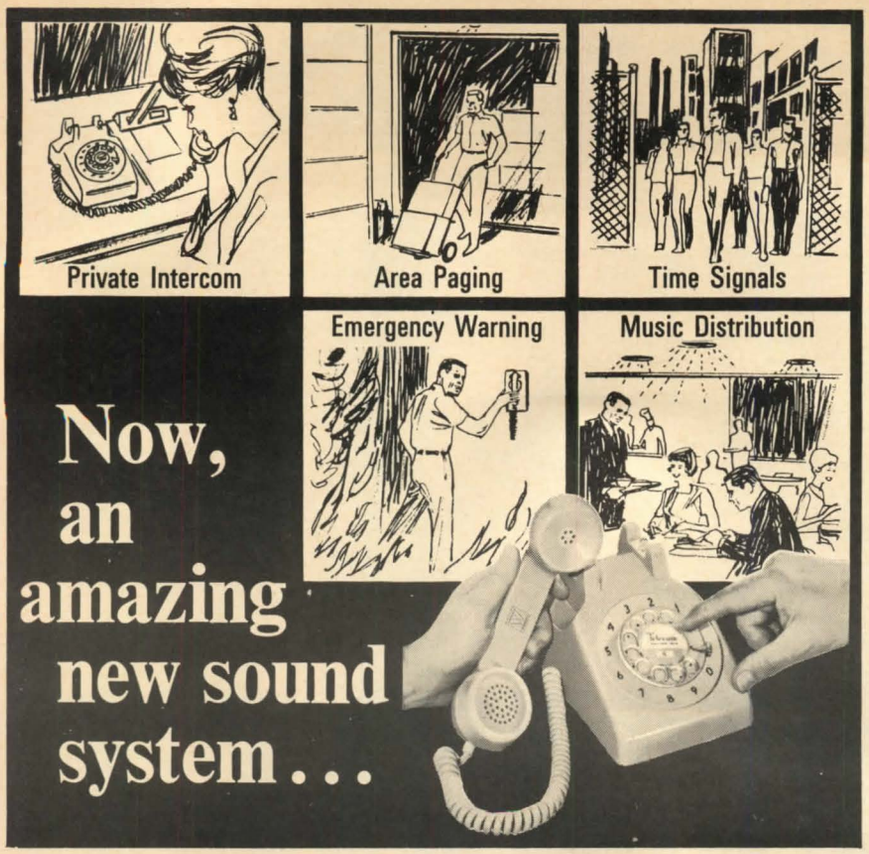
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REMINDER

Deadline for mailing entries to the fourteenth P/A Design Awards Program is August 31! For rules, see p. 61, JULY 1966 P/A. Address entries to Awards Editor, **PROGRESSIVE ARCHITECTURE,** 430 Park Avenue, New York, N. Y. 10022



combines all conventional features with private telephone intercom

Webster Electric, a pioneer manufacturer of sound and intercom equipment, has developed an entirely new sound system combining all outstanding features of a conventional system with private automatic telephone intercom. This innovation, the Webster PC System, is modular and fully transistorized — so entirely unique — a patent has been allowed.

It works like this. The sound system is multi-channel, permitting normal distribution of recorded, broadcast, or live programs, time and emergency signals to selected rooms, groups and areas. The telephone intercom section features a solid state line circuit switchboard, providing trouble-free communication over any number of dial telephones. In addition, you gain access to the sound system from any phone for paging, announcements or emergency all-calls on a private and/or priority line basis.

The advantages to this system are many. The electronic components and switchboard can be located in a remote spot — closet or equipment room. Wiring is telephone type — economical to install, maintain and expand. No special training is required to use — dial telephones are familiar to everyone. There are no restrictions on access to system — any authorized telephone may call.

The Webster PC System is ideal for schools, dormitories, hospitals, factories, wherever you recommend a sound or music distribution system. It's a natural to replace existing systems in remodeling or expansion programs.

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*See Yellow Pages — "Intercommunications Systems" 5260

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teristics. Two other 4-page pamphlets give guide specifications for poured-in-place rigid urethane foam for industrial insulation; and spray-in-place rigid and semi-rigid urethane foam. The Society of the Plastics Industry, Inc., 250 Park Ave., New York, N. Y. 10017.

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SPECIAL EQUIPMENT



Tan, green, yellow, white, blue, and blossom pink bathroom fixtures (lavatories, tubs, and toilets) in several different styles are the subject of an attractive booklet. Also shown in color are a bidet and a bathtub with integral seat. Color photos, dimensions. 28 pages. Wallace-Murray Corp., Eljer Plumbingware Div., 3 Gateway Center, Pittsburgh, Pa. 15222.

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Stickum-up vinyl films and paper-vinyl laminates are fabricated in wood grain, marble, and other decorative patterns suitable for wall coverings, counters, etc., and also for exterior applications. Laminates may be embossed or plain, and nonadhesive films are also available. Brochure contains color photos and descriptions of physical properties. Samples available. 12 pages. 3M Company, Decorative Products, 2501 Hudson Rd., St. Paul, Minn. 55119.

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PROGRESSIVE ARCHITECTURE
NEWS REPORT

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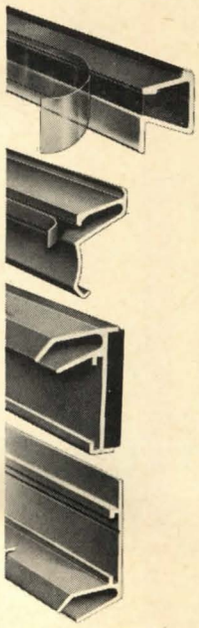
DESIGN AND FORM: THE BASIC COURSE AT THE BAUHAUS
by Johannes Itten.
7¾ x 10¾. 200 pages.
160 illustrations. $12

A complete description of the content and purpose of the famous "Introductory Course" at the Bauhaus, by the man who established it. Used as a trial semester to judge incoming students of varying educational backgrounds, the purpose of this course was threefold: to determine creative talent; to facilitate choice of career; to teach elementary design.

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WHEREVER THERE'S SPACE

there's a Norris Walk-In to fit

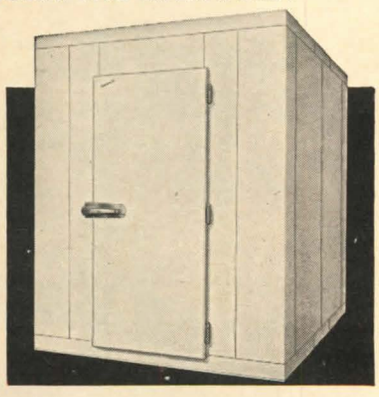
Wherever there's space, there's a Norris walk-in cooler, freezer, or cooler-freezer combination to fit, for Norris walk-ins provide complete installation flexibility. Available with or without floors, Norris walk-ins are pre-fabricated in two- and three-foot wall sections, four-foot door sections (7½' high), and can be set up in one-foot increments in any size—in almost any space—in new or existing buildings. The only tool necessary is a light hammer.

The modular panels of Norris walk-ins are all-metal—no wood to absorb moisture—and extremely light-weight. Standard exteriors are bonderized steel finished in white baked enamel, interiors are 22-gauge galvanized metal, with custom exteriors or interiors optional at extra cost. Ideal for every industrial, commercial or institutional refrigeration need, Norris walk-ins can be supplied with the proper self-contained or remote refrigeration equipment to meet any application.

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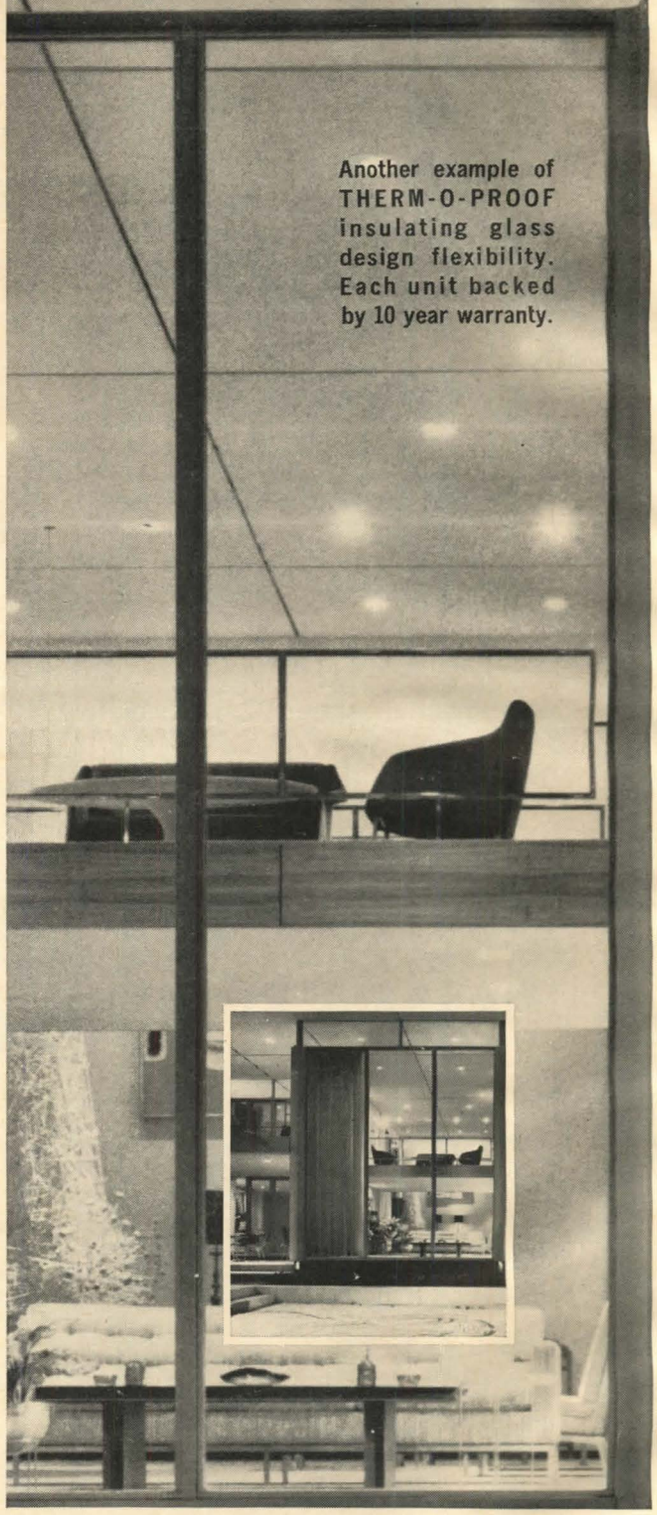


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NEXT MONTH IN P/A

Qué pasa?
From a recent on-the-spot view of what is happening in architecture in Venezuela, Colombia, Ecuador, Peru, and Brazil, P/A will present a report and assessment of current work of respected older men (Niemeyer, Villanueva, Burle-Marx, Bornhorst) and representatives of the exciting, emerging new generation.

No Shoemakers' Children They
Things have changed a lot since the old days of atelier and smock, as indicated by the offices of 10 architects to be shown in September. From the impressive surrounds of Vincent G. Kling, to the shared quarters of four young architects around a Manhattan water tower, the examples show what a designer can do to demonstrate his craft in his own digs.

Little Gray Homes in the West
Architect Clovis Heimsath and his wife Maryann examine the early anonymous architecture of Texas houses and barns and find it rivaling the best of early New England construction. Sketches by Clovis, photographs by Maryann, text from a forthcoming book on the subject from the University of Texas Press.

Caribbean Wrightean
Antonin Nechodoma was an architect in Puerto Rico whose main work was done during the 1920's. Few architects have heard of this mysterious and eccentric man, whose work bears a very strong resemblance to that of Frank Lloyd Wright. This picture essay will finally document his fascinating story.

The Usual Excitement
Materials & Methods articles on truss construction, nondestructive testing, an unusual laminated beam application, and structural stainless steel; P/A News Report with all the news that's fit to print and some that isn't; and P/A Observer with views on mainstreams and sidelights of today's design.

It's Your Own Fault . . .
. . . if you miss all this. All you have to do to get in on the most interesting and lively happenings in architectural publishing today is tear out the subscription order form (see Contents Page), fill it in, and put it in the mail. We'll do the rest for the next 12 months.



Twice, because space-saving Duos can serve two students at one time. Yet, they extend only 16″ from the wall! And they're trim, colorful, attractive. So, progressive school planners use Duos throughout modern campuses: dormitories, labs, lounges, classrooms, as well as washrooms.

Foot-operated Bradleys are doubly sanitary, too: hands touch only a spray of clean, tempered water, never germ-laden faucets. And the bowl is automatically rinsed clean by the running spray. Result: Duos are also ideal for food handling areas and first aid rooms.

Finally, Duos save water and water heating costs, maintenance time, and installation costs.

Duos are available in a variety of beautiful colors and stainless steel. Insist on Bradley Duo Washfountains — they belong in modern schools!

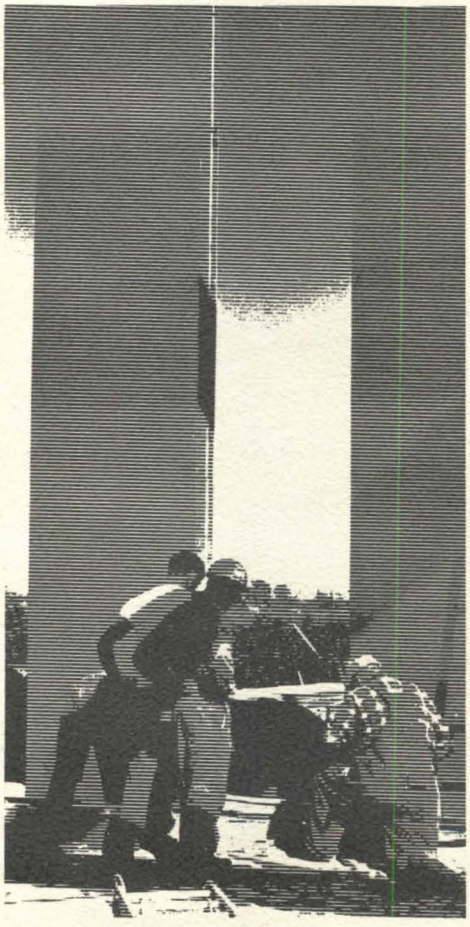
For details, see your Bradley representative. And write for latest literature. Bradley Washfountain Co., 9141 Fountain Drive, Menomonee Falls, Wisconsin 53055.

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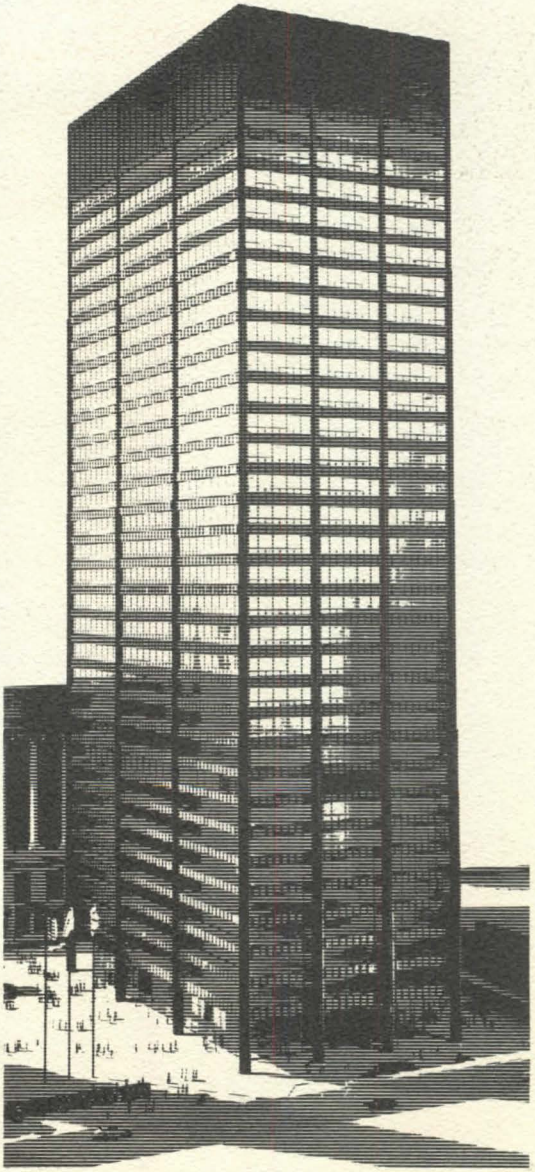
DESIGN IDEAS '66

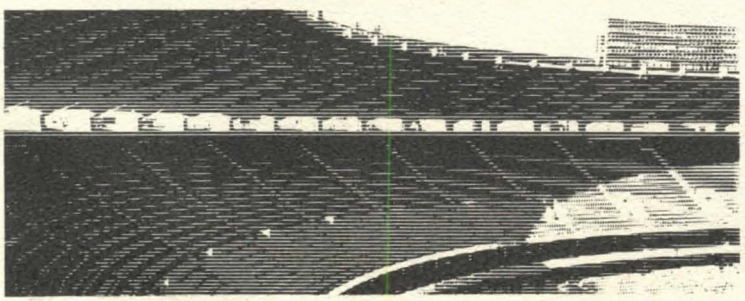
On the following pages you'll see 5 specific examples of how Koppers building products have helped architects and engineers obtain greater latitude of design and save money for clients. These Koppers products are either permanent in themselves, or they give permanence to other materials.













They saved six months' construction time on this 3,500,000 cubic foot refrigerated warehouse

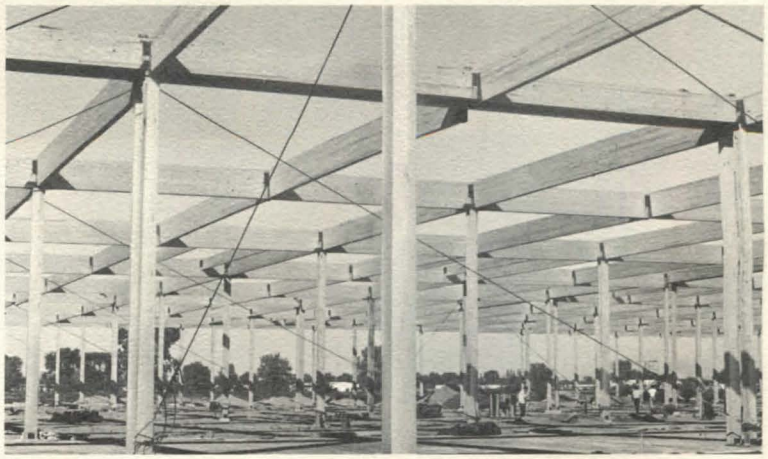
It's the March Cold Storage Warehouse in Indianapolis, and there are three excellent design ideas with Koppers building products incorporated in it. 1. It has structural beams and columns of UNIT®-laminated wood instead of metal or concrete. 2. The walls, roof and dock area are load-bearing Koppers building panels. 3. A Koppers coal tar pitch roof tops it off.

Laminated wood structurals had a better delivery time than metal. Bays were designed in approximately 40′ x 40′ modules, for efficient warehousing. The main beams stretch 80 feet in length, over three columns. In areas of high humidity, the columns were WOLMANIZED,® a pressure treatment that protects the wood from fungi, decay and termites. All structurals were glue-laminated with waterproof adhesives.

The Koppers building panels were delivered to the job site ready to be erected. The wall panels are 22′ high, 4′ wide, and 6″ thick, with an insulating core of DYLITE® foam plastic, and interior and exterior facings of aluminum-clad plywood. The roof panels, with the same facings and insulating core, are 24′ long, 4′ wide, and 8″ thick. Because these panels are load-bearing, they eliminated much of the need for structural support members and also simplified foundation requirements. Most of the six months saved in construction time was realized in the erection of the walls and roof. The panels were simply hoisted into place and joined together by their built-in locking devices. The water-resistant foam plastic insulation provides a k factor of 0.24 at 40°F. mean temperature.

A total of 1,484 squares of coal tar roofing was applied over the panel roof system. The 4-ply built-up roof was installed according to Koppers specification #314.

Koppers can provide the materials, and lend design assistance, for complete refrigerated facilities, from single cold storage rooms to giant warehouses . . . and clean rooms for industry. Check the coupon for further facts on Koppers laminated wood, building panels, and coal tar pitch built-up roofs.



Architect: Richard E. Beaman & Associates, Indianapolis, Indiana

TURN PAGE →

KOPPERS

4

Here's proof that there are low-cost, corrosion-resistant coatings that go 5 years without retouching

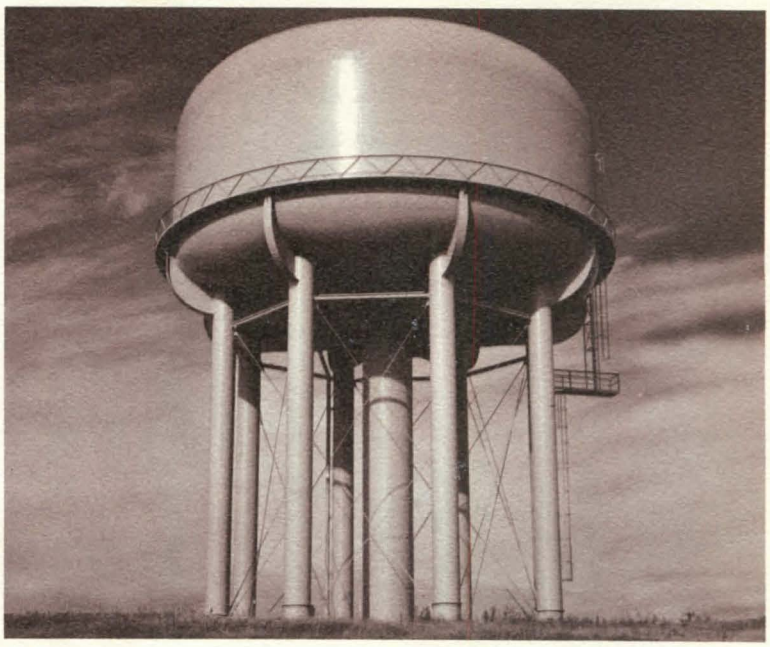
An INERTOL® phenolic coating system has protected the interior of this 1,000,000-gallon potable water tank in the city of Detroit Lakes, Minnesota, for five years now without retouching. The exterior of the tank is protected with RUSTARMOR®, an alkyd-resin enamel, available in more than 50 colors, for protection of nonsubmerged metal surfaces.

The tank is still in excellent condition, according to the city water department.

On the interior, the steel was shop-primed with an INERTOL rust-inhibitive primer to a dry thickness of 1.5 mils. Covering this is a 3-mil-thick Bakelite resin aluminum paint, a tasteless and odorless coating for surfaces in contact with drinking water.

On the outside, an INERTOL rust-penetrating primer and a RUSTARMOR coating in color are capable of withstanding harsh winter and summer temperatures without cracking. The total thickness of this exterior system is 4.3 mils.

There's a full line of Koppers protective coatings: phenolic resin, alkyd, rubber-base, epoxy, acrylic, zinc-rich, and bituminous. If you want assurance that you have the right protective coating for your application, check Koppers.



5

Pressure-creosoted wood piles selected for San Francisco's new $29-million pier



San Francisco's largest commercial pier—now under construction—will be able to berth nine ocean-going vessels at one time. A $29-million project, it is scheduled to be completed in October, 1966.

To serve as a fender system for the pier, to hold a relieving platform and to support a concrete retaining wall, 6,000 pressure-creosoted Douglas fir piles are now being installed. They were pressure-creosoted by Koppers to a retention of 14 pounds per cubic foot of grade one creosote. The class A piles range from 50 to 63 feet in length, with butts 14 inches in diameter and tips 8 inches in diameter; the pile design load is 25 tons.

Correct pressure treatment with creosote gives complete and permanent protection from all marine organisms, rot, decay, termites and fungi.

Treated properly, and designed in accordance with load test and soil conditions, pressure-creosoted friction or semi-friction marine and foundation piles safely support loads of 50 tons, at costs substantially less than for steel, monotube or concrete. Check for more information from Koppers about pressure-creosoted piling and creosote.

Chief Engineer: Eugene Sempler; San Francisco Port Authority

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All-electric office building means "higher rentals... better earnings" says leasing expert

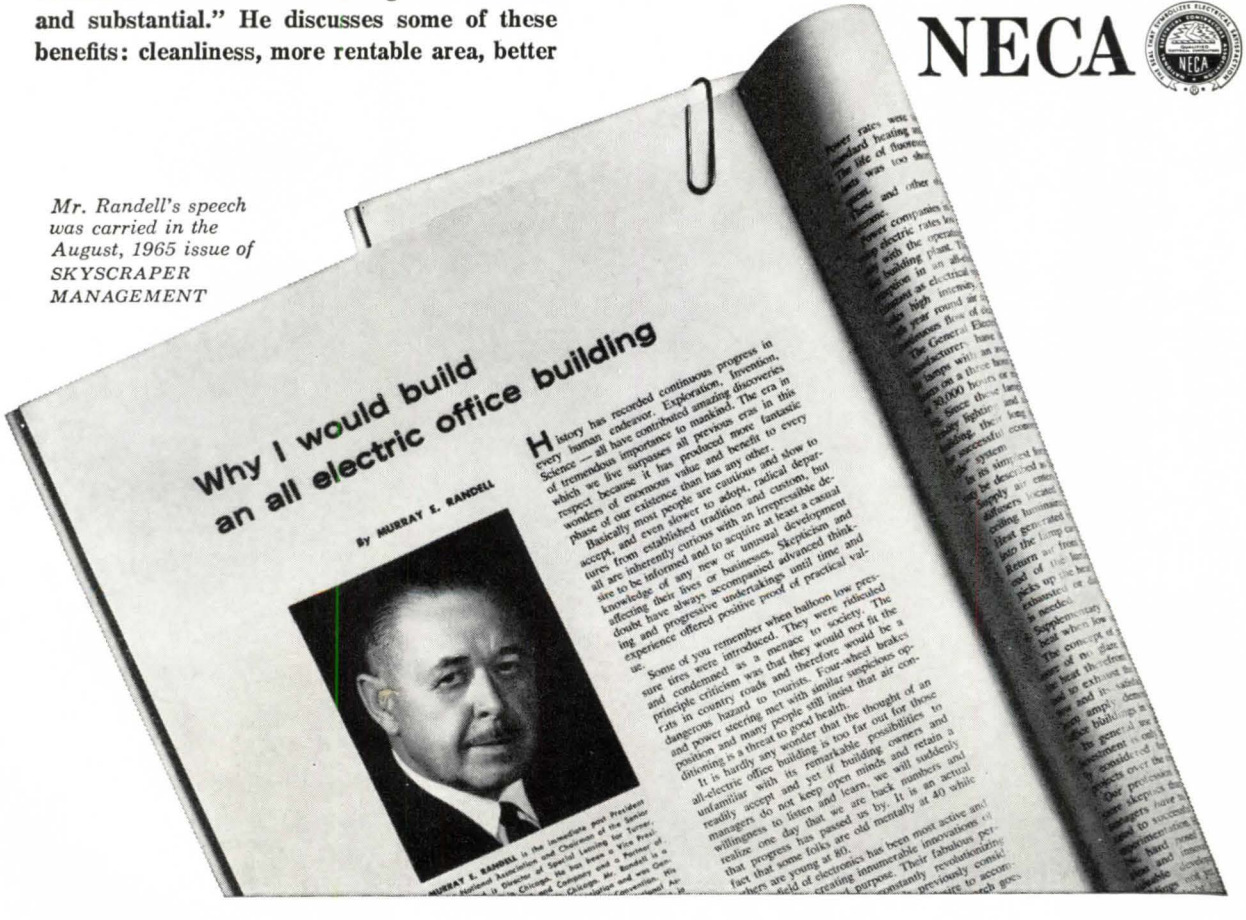
"I believe the all-electric office building has a distinct advantage competitively and can demand and obtain higher rentals resulting in better earnings than the average standard office building can produce," says Murray Randell, Director of Special Leasing for the Chicago firm of Turner, Bailey and Zoll.

Mr. Randell made this statement in his speech, "Why I Would Build An All-Electric Office Building," given at the annual convention of the National Association of Building Owners and Managers, of which he is past president.

Mr. Randell points out that "the advantages and benefits accruing to the owner, manager and tenants of an all-electric building are numerous and substantial." He discusses some of these benefits: cleanliness, more rentable area, better light, use of light for heating, efficient temperature and humidity control. And he points out how these benefits not only give the building a competitive advantage now but will prolong the economic life of the building. He believes that experience to date indicates that the operating costs of the all-electric building are lower than in a conventional building and cites figures to support his contention.

Because Mr. Randell is an acknowledged expert in his field, and has no connection with any phase of the electrical industry, we believe you will want to read his speech in full before you plan your next office building. For a free copy, write: NECA, National Electrical Contractors Association, 610 Ring Building, Washington, D.C. 20036.

NECA


Why I would build an all electric office building

By MURRAY E. RANDELL

History has recorded continuous progress in every human endeavor. Exploration, Invention, Science — all have contributed amazing discoveries of tremendous importance to mankind. The era in which we live surpasses all previous eras in this respect because it has produced more fantastic wonders of enormous value and benefit to every phase of our existence than has any other.

Basically most people are cautious and slow to accept, and even slower to adopt, radical departures from established tradition and custom, but all are inherently curious with an irrepressible desire to be informed and to acquire at least a casual knowledge of any new or unusual development affecting their lives or businesses. Skepticism and doubt have always accompanied advanced thinking and progressive undertakings until time and experience offered positive proof of practical value.

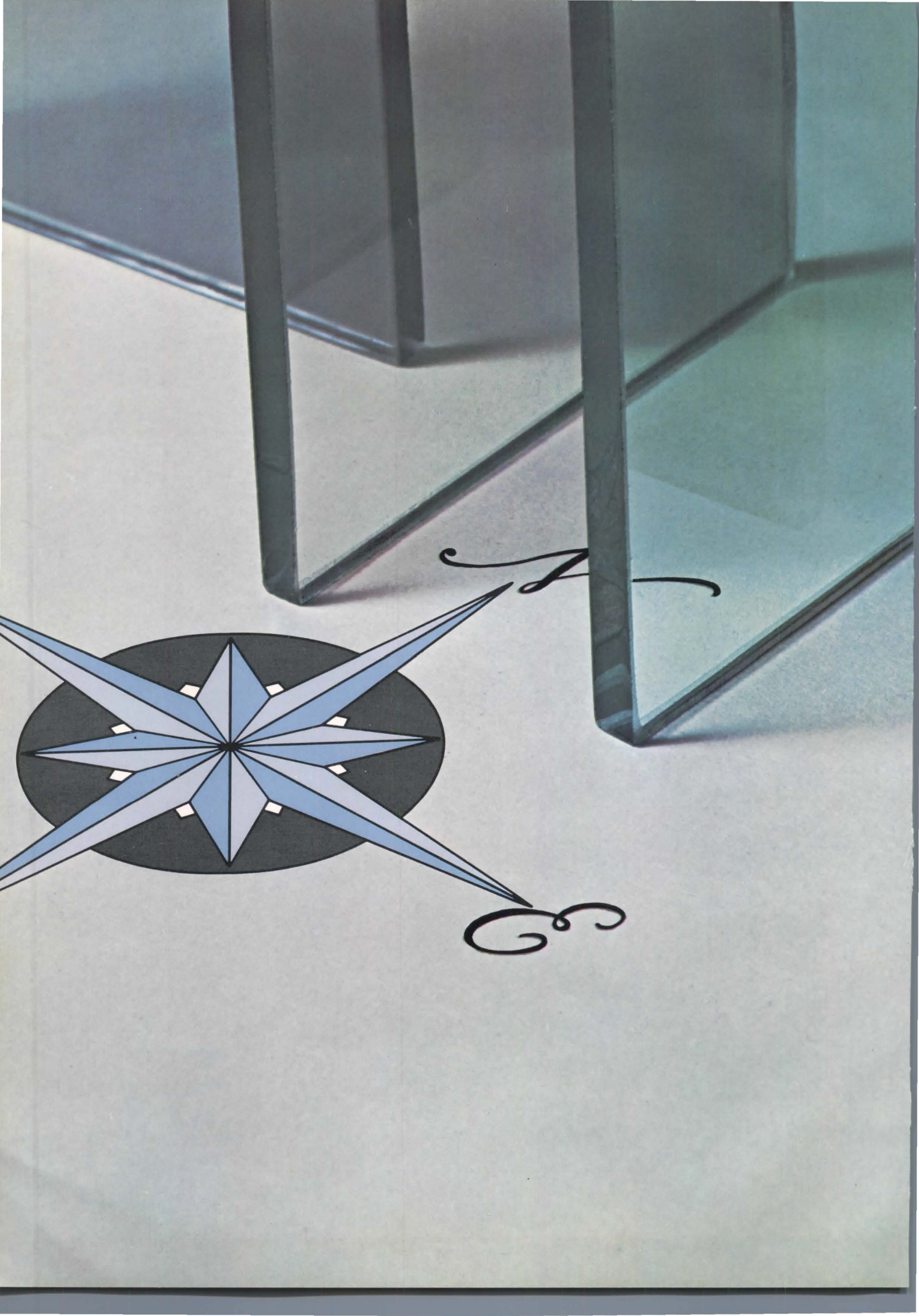
Some of you remember when balloon low pressure tires were introduced. They were ridiculed and condemned as a menace to society. The principle criticism was that they would not fit the ruts in country roads and therefore would be a dangerous hazard to tourists. Four-wheel brakes and power steering met with similar suspicious opposition and many people still insist that air conditioning is a threat to good health.

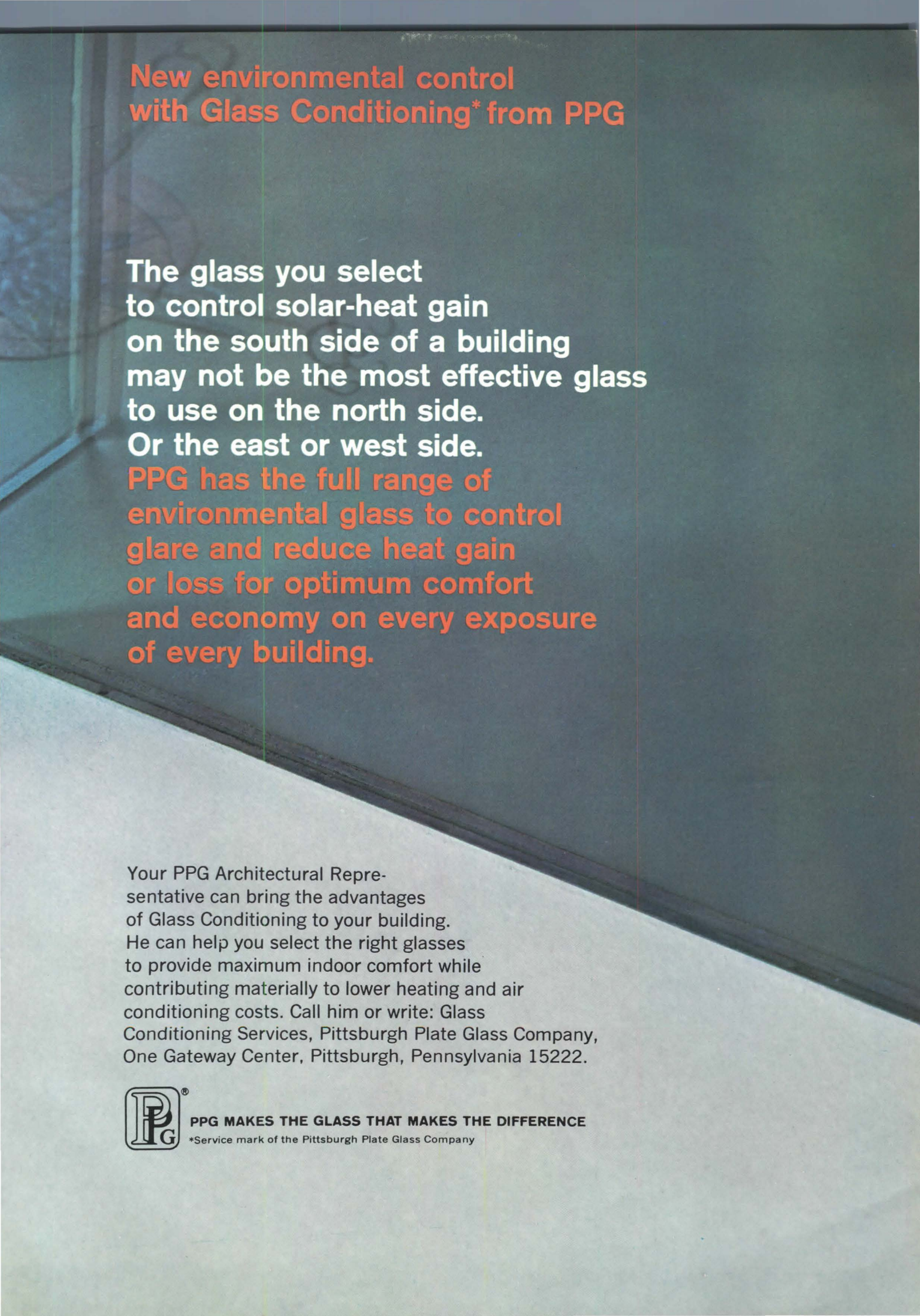
It is hardly any wonder that the thought of an all-electric office building is too far out for those unfamiliar with its remarkable possibilities to readily accept and yet if building owners and managers do not keep open minds and retain a willingness to listen and learn, we will suddenly realize one day that we are back numbers and that progress has passed us by. It is an actual fact that some folks are old mentally at 40 while others are young at 80.

MURRAY E. RANDELL is the immediate past President ... Director of Special Leasing for Turner, ... Chicago. He has been a Partner in ... and Company and Randell is a ... Chicago. As ... convention, his ...

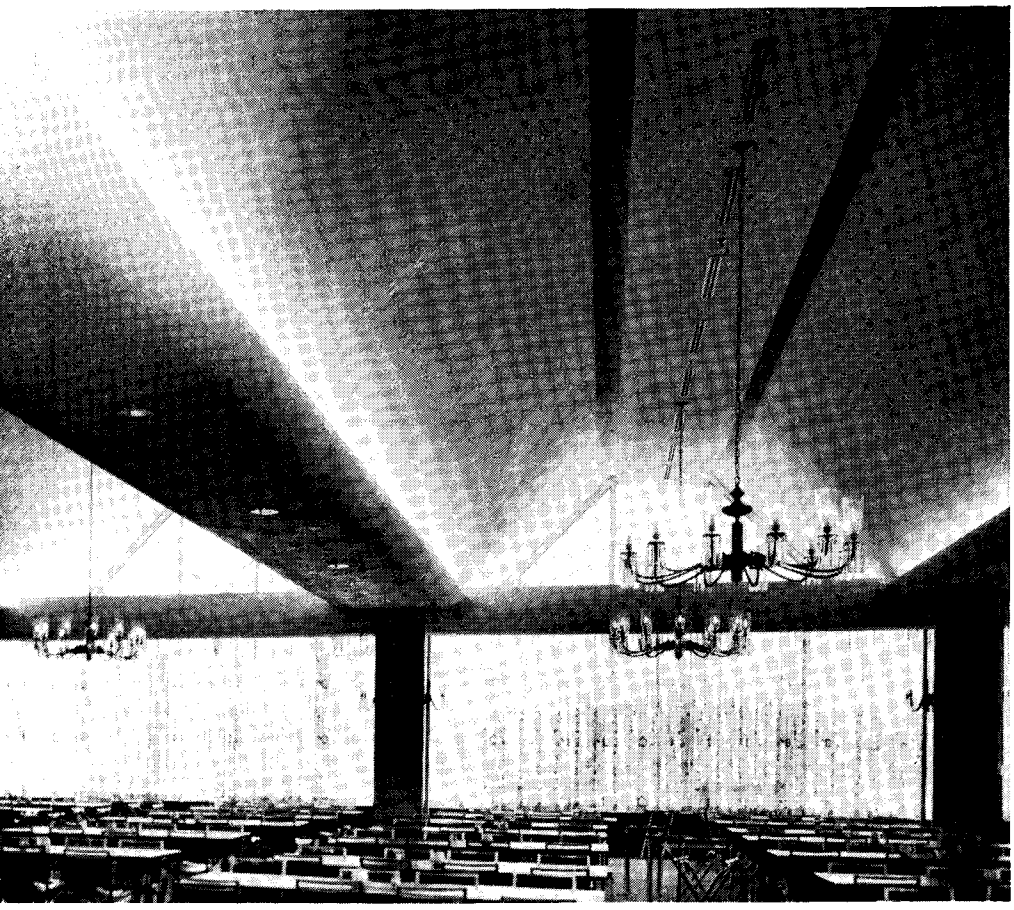
Mr. Randell's speech was carried in the August, 1965 issue of SKYSCRAPER MANAGEMENT

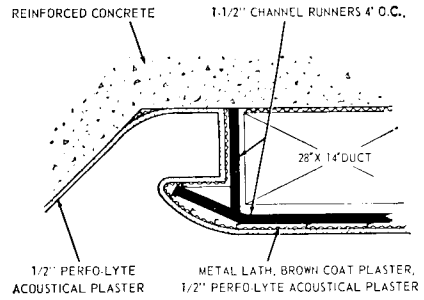
On Readers' Service Card, Circle No. 389 ➤



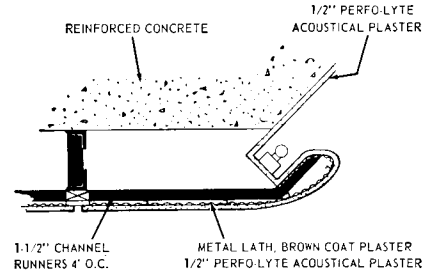

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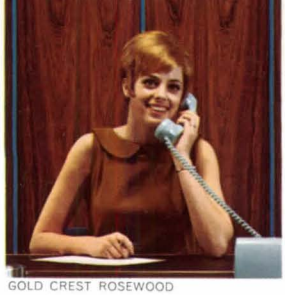
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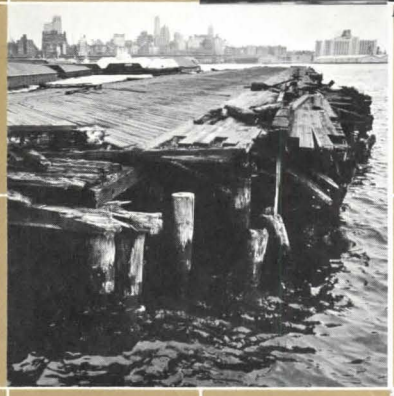
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SHOPS
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THEATRE
LIBRARY
29,000 EMPLOYEES
14,000 RESIDENTS
HISTORICAL SHIPS
FIREBOATS
RESTUARANT
THEATRE - BAND SHELL



East Side Riverfront.



THE ROTTING EAST RIVER: East River section of Lower Manhattan is in state of complete decay. The Fulton Fish Market is moving out of the area. Housing project above Brooklyn Bridge faces an automotive junkyard (on barges).

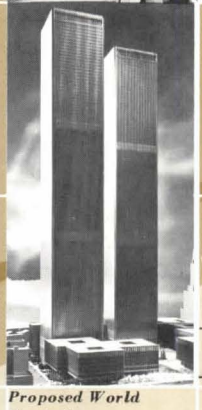




Battery Park.

BATTERY PARK: Battery Park, with the highway underground, is the only recreational development in the downtown area. The closest thing to an outdoor waterfront restaurant sits on asphalt.





Proposed World Trade Center.



Lower West Side Riverfront.

15



l for Same Area.

FIGHT FOR RECREATION PIERS: While Marine and Aviation Department fights a losing battle to reclaim cargo facilities (12), the neighborhoods of Greenwich Village and Chelsea are battling for recreation piers (11). The Chelsea contingent ran up against strong opposition from the longshoreman's union, which hates to see any pier, dead or alive, go to noncommercial use. When the Board of Education closed up Pier #42, Carol Greitzer, the local Village Independent Democratic Leader, persuaded Parks Commissioner Hoving to reopen it.

14



Rockefeller Proposal.

ROCKEFELLER, MARINE & AVIATION: Governor Rockefeller's proposal for developing a section from the Battery to Chambers Street duplicates Marine & Aviation's proposal prepared by Ebasco and Eggers & Higgins. Both propose high-rise housing for the area, combined with some cargo facilities. The Rockefeller proposal was so hastily assembled that identification of buildings on the plan was sometimes confused. Neither proposals solve the problem of the highway barrier, nor are they integrated with the inland architecture. The Rockefeller plan pales beside the City's proposal for the area (overleaf).



M & A Development.

13



laza.

7



South of U.N.

PHOTO: FRED MC DARRAH



PLATFORMS OVER ROADWAY: In some sections, the East Side has licked the barrier of the highway by building a deck over it—out to the water's edge. (One apartment dweller drew publicity several years ago by fishing from his window.) New York Central Railroad (below) is trying to find a buyer for the rights over the tracks on the West Side in the Sixties. The Amalgamated Lithographers was interested in the proposal but found building too expensive. Open tracks lie on the back doorstep of the fashionable Lincoln Towers, which faces culture on the other.

cties.





DISGRACEFUL PASSENGER PIERS: Marine and Aviation Department's North River proposals include much-needed passenger dock (8) facilities (they suggest putting block-long terminals between sheds—two on fill) and a convention hall and recreation center (9) near the busy midtown area of 42nd Street.

8



PHOTO: FRED MC DARRAH



PHOTO: FRED MC DARRAH

M & A Passenger Terminal Proposal.

Existing Piers.

U.N. SCHOOL LEAVES HOUSING BEHIND: Lewis Davis of Davis & Brody used to deplore the fact that he could not take his family walking along the East River. Deciding to take action, he got the HRH Construction Company interested in a housing project; Katz Waisman, Weber, Strauss and the Gotham Construction Corporation then followed for a project to the south. Davis then interested the U.N. School officials, who were looking for a site. The housing architects hoped the U.N. would smooth the way through the city departments. It did, and went right on through without carrying the housing along. The housing, in the works since 1962, did not get an approval on the site from the City. The project by Katz, Waisman, Weber, Strauss was not really ready for the mill, luckily; the other, by Davis, Brody & Associates, had some sound proposals for a river-front design, and with some encouragement from the City it would have gone ahead.

9



M & A 42nd Street Entertainment Complex.

42nd Street



Site for U.N. School.

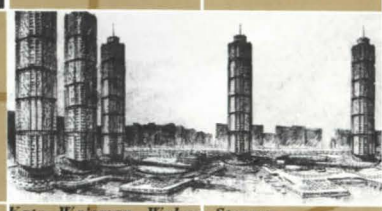
10



Davis & Brody Housing.



U.N. School.

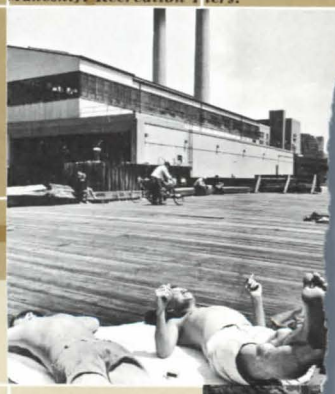


Katz, Waisman, Weber, Strauss.

34th Street

Makeshift Recreation Piers.

11



12



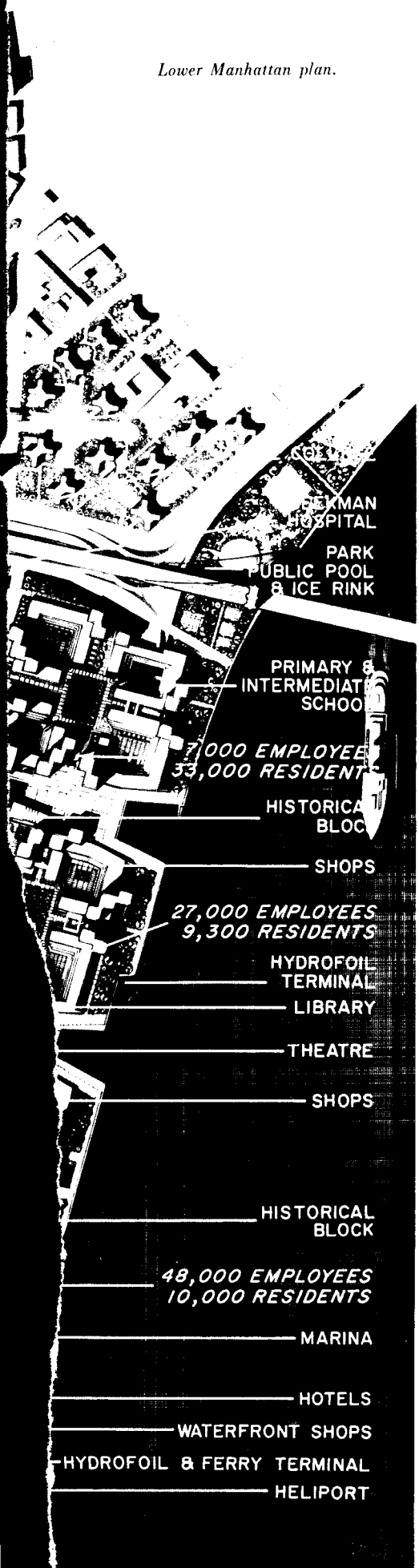
M & A Proposa

PART II: CONTROL

The Downtown Lower Manhattan Plan, prepared by Wallace, McHarg, Roberts & Todd; Whittlesey, Conklin & Rossant; and Alan M. Voorhees & Associates, Inc., is the first plan that thoroughly integrates a residential waterfront development with the architecture and circulation patterns of the island interior, and suggests a building form specifically tailored to a waterfront site.

Although the proposal for residential waterfront development is one of the most spectacular aspects of the plan, it is, ac-

Lower Manhattan plan.



James Rossant rendering of plaza at base of Wall Street.

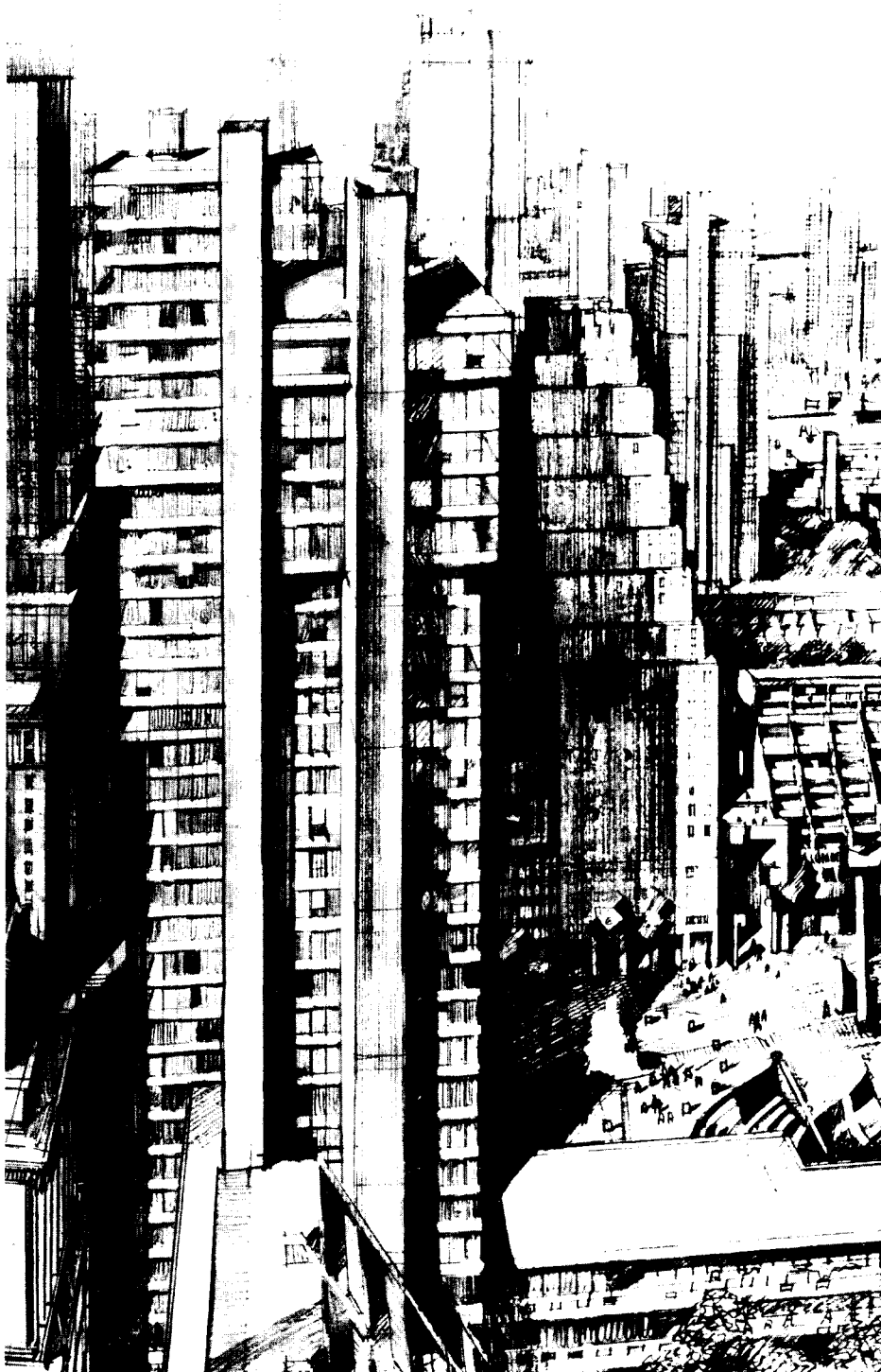




PHOTO: FRED MC DARRAH

East River.





4

East Side Drive

U.N.



Development.

Riverton.





Lexington Avenue

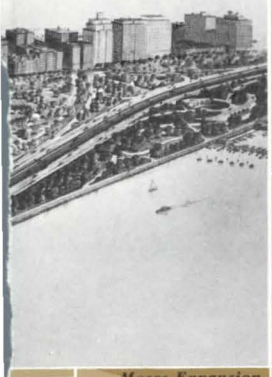


Sutton Place.



Fifth Avenue

HARLEM RIVER: DUMPS TO DOORMEN: Garbage dumps and auto repair shops along the waterfront are giving way to large housing projects—the slab-in-space variety, trumpeting prestige but most of dubious architectural and human values. Davis, Brody & Associates' Riverbend, a limited-profit housing project, sits on an awkward triangle of land, but, unlike the other high-rise and ill-planned projects in the area, tries to maintain the façade of the street; 146 cars are put underground with playground atop. Apartments have a porch and outdoor corridor on each level. Sponsors: HRH Construction Corp., and Sheppard-Pollack, Inc. Cost: $13,900,000. Number of apartment units: 624. Status: Groundbreaking, June 1966.



125th Street

Grand Central Tracks, West Side

JOMEL, COLUMBIA, ARCH FIGHT FOR FILL: This is the site the Jomel Construction Corporation wanted for a typically bad design of high-rise towers (by Max Urbahn). Columbia University put in its bid. ARCH, a design team, soberly submitted a proposal to EDA for funds to study the economic and architectural potential of the area. Main bone of contention is keeping industry in the area.

Broadway





Moses Expansion.

West Side Drive

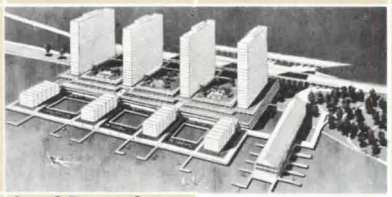


Marina.

SEWAGE PLANT: ANTIPOLLUTION BRINGS AN EYESORE: The Department of Public Works project, designed by Tippetts-Abbett-McCarthy-Stratton, Gibbs & Hill, Inc., Feld & Timoney, will treat 220 million gallons of sewage pouring in from Manhattan's West Side. Ranging from 130th to 135th Streets and projecting out on piles 425 ft from shore, it will be one of the outstanding eyesores on the riverfront. It was passed by the City's Art Commission, which made some aesthetic adjustments by moving a few towers around.



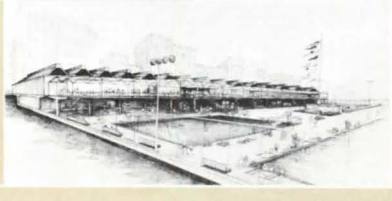
Hudson River Sewage Plant.



Floating Pool.

Jomel Proposal.

5



6

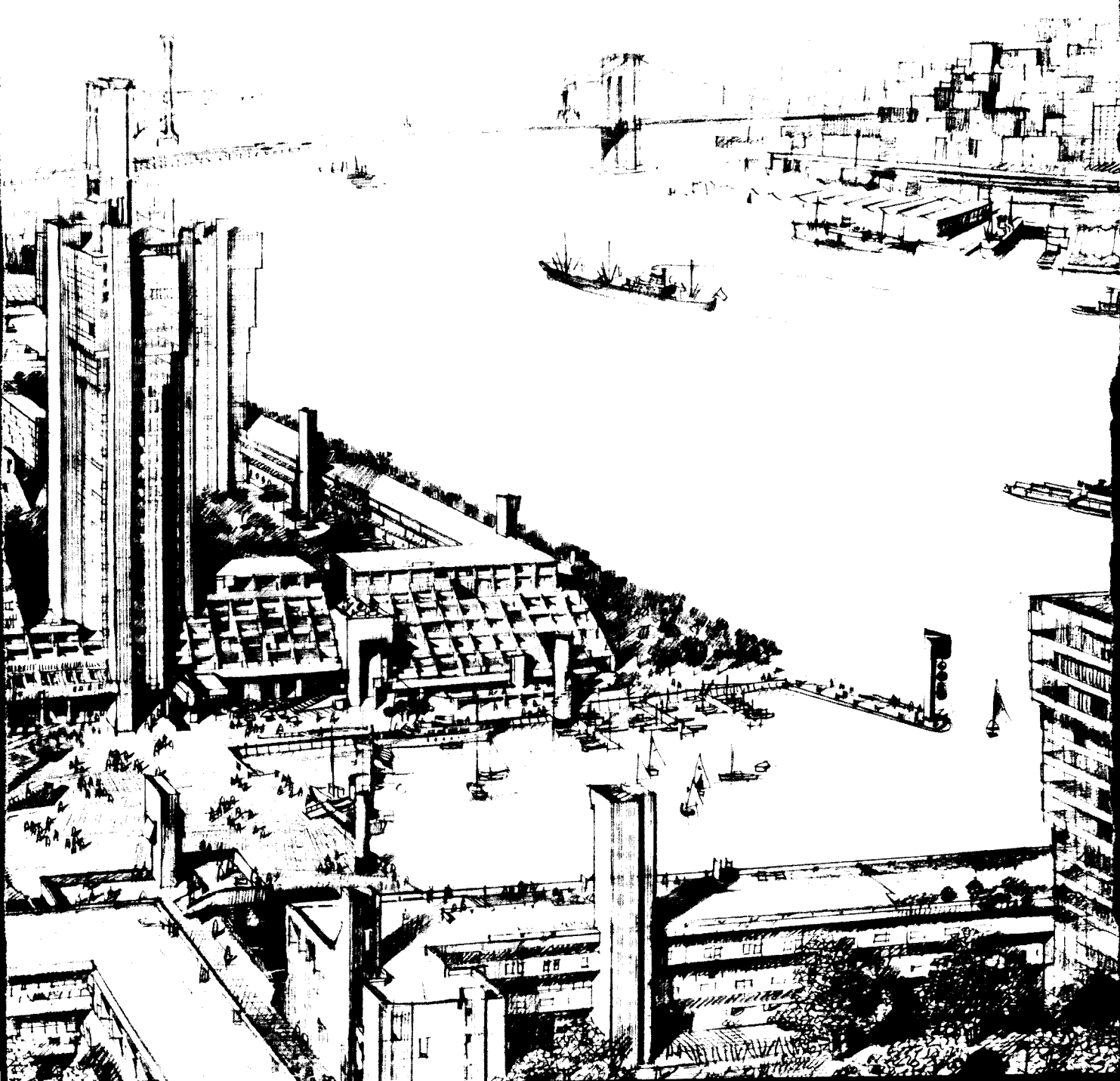
FLOATING POOL: Juster & Gugliotta proposed this $1,801,000 concrete floating swimming pool complex to the City's Parks Department. It is a long way in price and size from the swimming barges on the Seine.

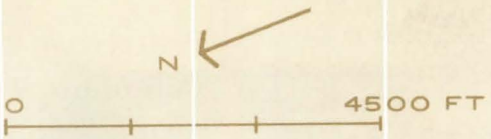
cording to the City Planning Commission, secondary to the main purpose of the study: the coordination of current projects in Lower Downtown Manhattan, evaluation of land use and the unscrambling of the traffic congestion.

The architects feel, however, that the development of residential centers is essential to the revitalization of Lower Manhattan. This oldest business district in New York has successively lost prominence to uptown centers—first 14th Street, then 23rd and 34th, and now East Midtown, north of Grand Central. Downtown remains the financial and shipping center of New York, but even the financial interests threatened to move north into the Fifties. The movement was stopped by the decisions of a few large firms, led by the Chase Manhattan Bank (and David Rockefeller) to build their new headquarters in the old district rather than uptown. Now numerous projects are underway: the World Trade Center, the Civic Center, the Pace College Expansion, the Beekman Downtown Hospital annex.

Essential to the revitalization of the business area, the report claims, is the growth of a neighborhood and environment that will encourage employment downtown. Although the architecture of the new Hill buildings has swung toward the shaft-and-plaza type of design that opens up the streets to light and space, it also destroys the tight, closely packed architectural character of the area and contributes a great deal of prestigious space with few practical amenities such as restaurants, shops, etc.—facilities that would make the area much more livable. The waterfront, with the exception of the Battery Park, lies idle, studded with decaying piers. The number of persons actually living in the Wall Street area can practically be counted on the fingers of one hand, yet there is no reason why the area should not have a strong mixture of residential and business use, why the waterfront should not be used for shops, restaurants, housing, and—for enjoyment. A residential development on the waterfront would attract many who favor in-town living and walk-to-work conditions.

The waterfront is ready for redevelop-





Davis & Brody's Riverbend.



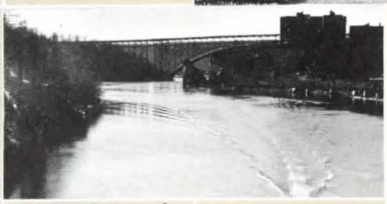


Harlem River, 1843.



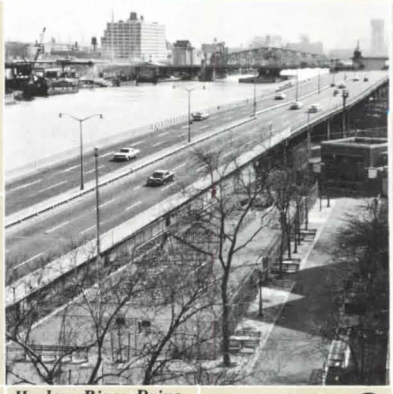
Area Before

PHOTO: FRED MC DARRAH



Harlem River today.

RIVERFRONT ROADS—MOSES PLOTS EXPANSION: The highways are man's barrier to the waterfront, but Robert Moses, head of the Triboro Bridge and Tunnel Authority, plots his latest road expansion on the West Side. Traffic here gets clogged up, so Moses wants to add from 6 to 10 speed lanes to bring more cars into the mess. Unfortunately, nobody can figure out an economical way of getting pedestrians across the present roadway in the stretch of Riverside Park that runs from 79th to 158th Streets, which has only four entrances. Total cost: $160,000,000. Sponsor: Moses. Status: Kicking.

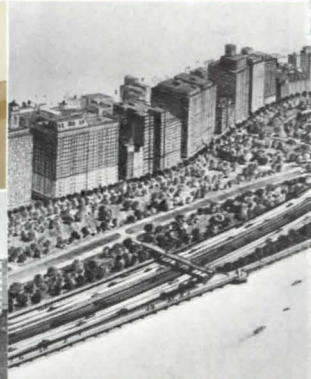


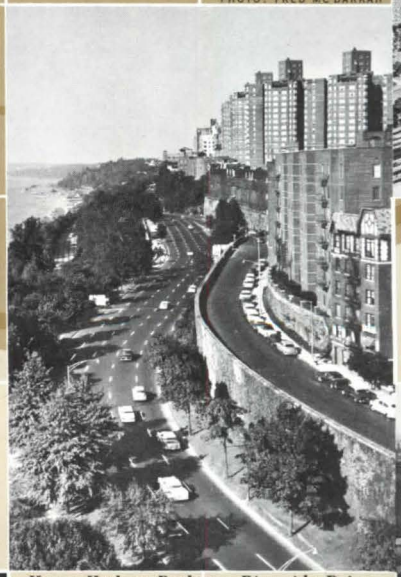
Harlem River Drive.

PHOTO: FRED MC DARRAH

2

CLOISTERS: WILL HOUSING SPOIL THE VIEW? Marine and Aviation Department might have given away the rights for this housing project below the famed Cloisters had not the Parks Department complained and put in a request for the land. Venetian Gardens was to sit on fill, 2400 ft on the shore and 250 ft into the river, with high-rise towers. Architects: Curtis & Davis. Status: Awaiting decision of Board of Estimate. Parks Department and City Planning Commission against housing; Housing and Redevelopment Board, Marine and Aviation are for it.





Henry Hudson Parkway, Riverside Drive.

PHOTO: FRED MC DARRAH



View from Cloisters.



Venetian Gardens.

1



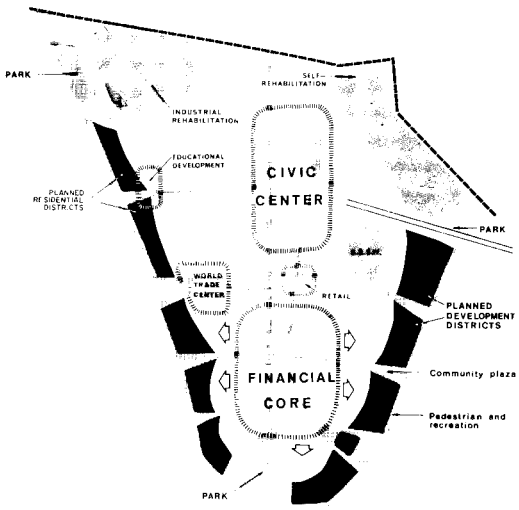
3

ment. The report estimates that, out of 51 piers in the area, 18 are in regular use and *only 7* are of post-1916 construction and in good condition. The wholesale markets bordering the waterfront—the Washington Street grocery market, and the Fulton Fish Market—are to be moved up to Hunt's Point in the Bronx.

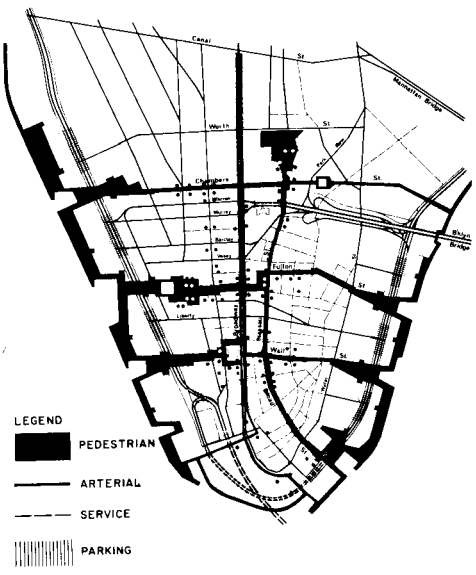
Bury the Highway

The development of the waterfront is predicated on one important factor—that the circumferential highway which cuts the shore off from the core of the island be put underground. Once this is established, claim the consultants, the foundation for any waterfront development is firmly laid, and the riverfront can be tied to the interior core. The report suggests that a new depressed highway be built beyond the present bulkhead line—for economy's sake, and also to permit the old expressway to be used during the construction period. The estimated cost of filled land plus the highway would come to approximately $22 per sq ft—far cheaper than inland prices, which range from $75–$125.

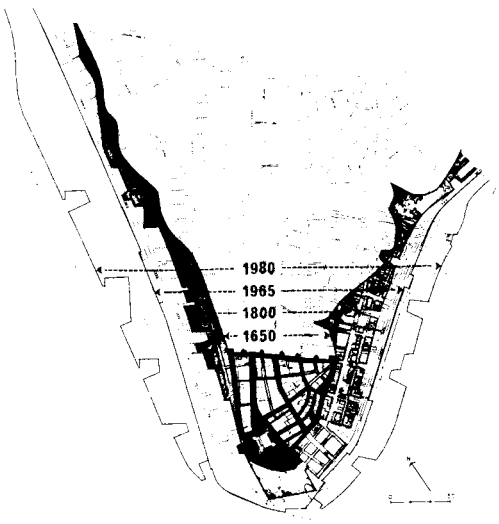
Lower Manhattan has a long history of expansion (see graph). The present project falls within the regulations of the U.S. Corps of Engineers: the placement of fill does not reduce the cross-sectional area of the riverway by more than 2 per cent. On the East River, this brings the line 80–150 ft back from the pierhead line.



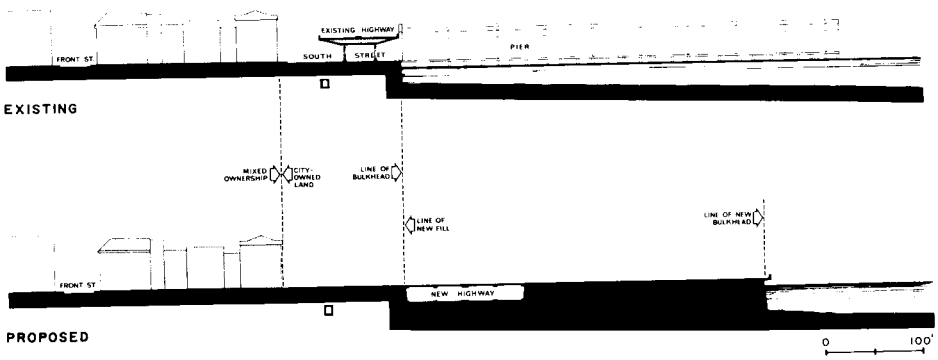
Land Use: black areas indicate fill areas to be developed for residential, recreational, and some office use.



Circulation system proposes pedestrian route ending in plazas at riverfront.



Growth of Manhattan Island boundaries, 1650–1980.



Elevated highway put underground: new road is placed beyond present bulkhead line.

Pedestrian Routes Determine Waterfront Plan

The massing of the waterfront development is determined by a system of pedestrian pathways proposed for the interior core. To unscramble the congested traffic and tie together new projects on the interior, the report counciled that certain streets (Fulton, Wall, Broad, Chambers, and Rector) be closed off to vehicular traffic. These pedestrian ways would broaden into wide plazas at the riverfront. Office and residential cores would lie in between. The development of the pedestrian way is particularly appropriate to the downtown area, since many streets date from early settlement days, are too narrow for the automobile, and today roughly 95 per cent of the population arrives by mass transit. Seventy-five per cent of these commuters use the subway, and the pattern of exits and entrances forms one of the criteria for the selection of the pedestrian streets. The report also suggests expediting through-traffic from the Brooklyn Bridge, *under* the new Civic Center, to the West Side and the Holland Tunnel. By placing a bridge over Church Street a continuous east-west pedestrian way is established to and from the World Trade Center. Relegating the automobile to a secondary position would open up the waterfront to daily use.

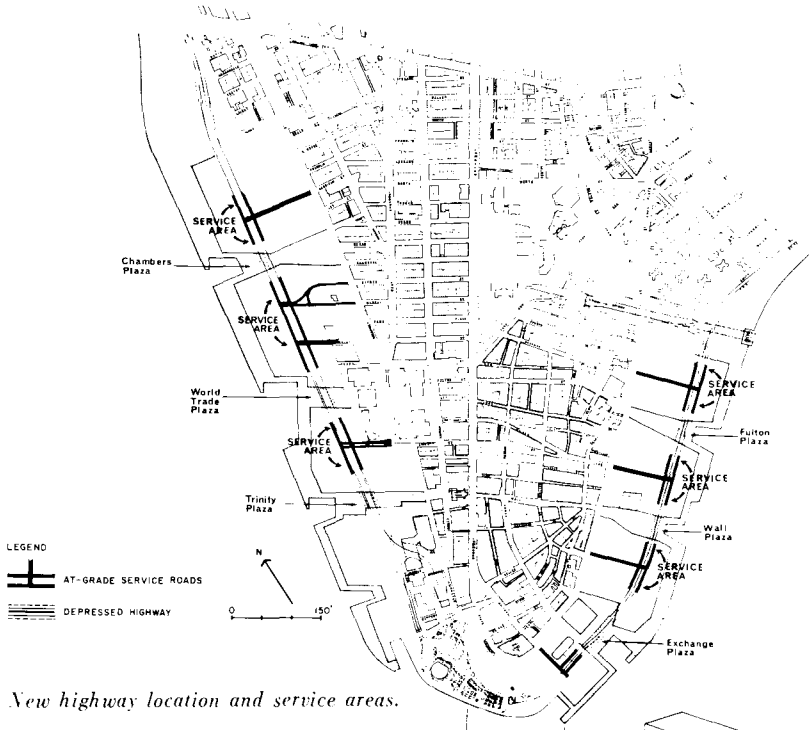
The report goes on to give a detailed study of one plaza and residential block. A series of sections and drawings (p. 131) show how the fringe areas close to the core of the island would consist of high-rise office buildings (continuing the functional and architectural pattern of the core): next to the waterfront would be lower terraced residential buildings. These would surround an elevated plaza that serves as a semi-private open space for the residents as opposed to the more public plazas between blocks. Below the residential courtyards would be parking levels and road connections servicing the centers from the circumferential highway.

Architecture Tailored to the Waterfront

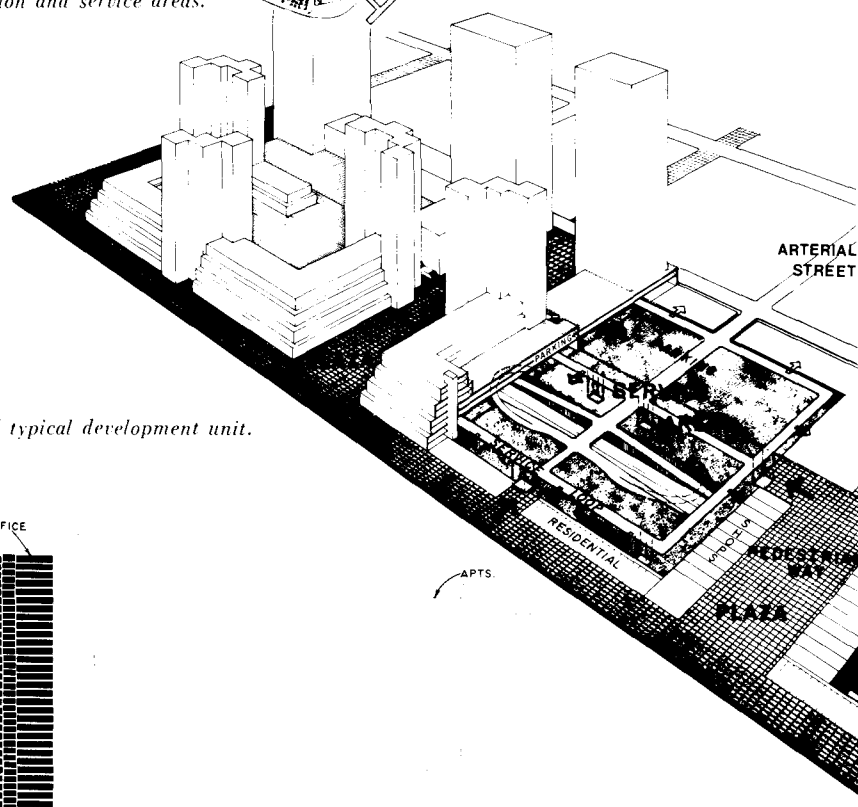
In evaluating the Whittlesey, Conklin & Rossant report against the proposals by Governor Rockefeller, the Marine & Aviation Department, and even the housing projects on the Harlem River, it is obvious that two different theories of architecture are at work. The very feature that is touted as a virtue makes the latter proposals so

disturbing: the slender high-rise-in-open-space tower is supposed to allow the inhabitants living behind the project to get a peekaboo-view of the river, to connect them with the riverfront. However, the shaftlike buildings have nothing to do with living on the waterfront. They recall the sealed-up boxes by I. M. Pei at Kips Bay and those of Harrison & Abramovitz flanking the U.N. on the East River. While those sheer air-conditioned containers capitalize on the view, they take no other advantage of the waterfront location and its supposedly salubrious attributes: the smell of the water, the fresh wind, the desire to be out of doors. To get a whiff of the river, it is necessary to descend countless floors and emerge on a desolate plain posted with "keep-off-the-grass" signs. These buildings might give the row behind them a glimpse of the river, but in themselves they are no better living quarters than apartments in the center of the island. The Whittlesey, Conklin & Rossant proposal suggests more than an integrated plan for the waterfront; it sketches out a type of architecture that seems admirably suited to the site—the low terraced structure gives every level a bit of outdoors, and the plazas have very specific and intense functions: semiprivate or public. Around the perimeter of the residential masses are continuous walks that expand or contract, creating a change of focus, or depth, and a variety of spatial experiences lacking in wide open Corbusian spaces.

Recognizing the hopelessness of a plan without a method of implementation, the report ends with a plea for a tool, an organization (similar to the Old Philadelphia Development Corporation, and the Charles Center, Inner Management Inc.): "Its function would be to plan, promote, and in some instances execute various portions of the development; in more instances, however, it would be acting as agent for the city. The purpose of such an organization would be to provide a device for treating large segments as planned unit developments to insure the implementation of the plan's objectives. By planning on a unit (meaning an entire block between plazas) rather than a parcel basis, it is possible to provide an intensity of development for open space, parking and other requirements. . . . The alternative of a property-by-property type of development (as is now happening in the waterfront area) will not produce as flexible, integrated results."

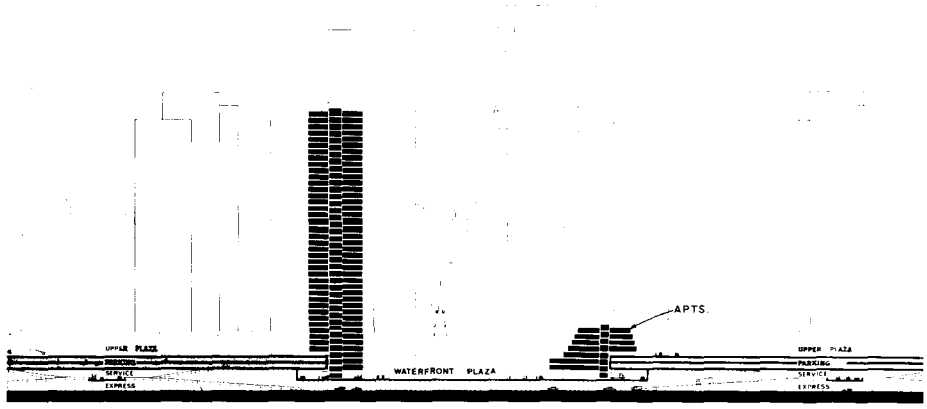


New highway location and service areas.



Cutaway section of typical development unit.

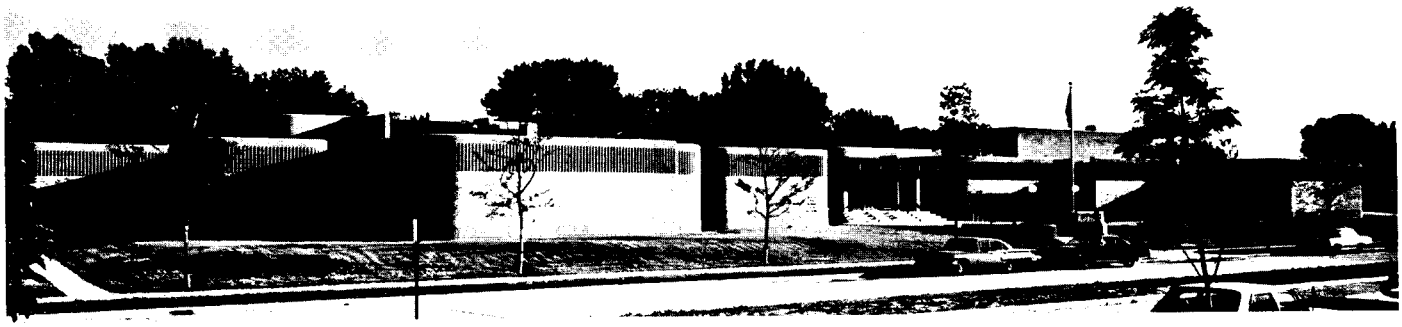
TRANSVERSE SECTION



LONGITUDINAL SECTION

DIVERSITY AND COHESIVENESS

JEWISH COMMUNITY CENTER OF ST. PAUL, *St. Paul, Minnesota.* ***Architect:*** *Leonard Parker.* ***Site:*** *A long, narrow, flat suburban lot.* ***Program:*** *House community agencies for preschool through old-age groups, including community organizations, welfare programs, social activities, and health and play programs for the community in general but the Jewish community in particular.* ***Structural System:*** *Masonry bearing walls (brick and lightweight concrete block); precast concrete floor planks over excavated areas and poured concrete slabs on grade; steel bar joist and metal deck roof except over long spans (auditorium, gymnasium, swimming pool) where precast concrete tees resting on special precast bearing inserts are used.* ***Mechanical System:*** *Low-pressure gas boiler heating system with light oil stand-by system.* ***Major Materials:*** *Medium dark brick spandrels and entrance canopies of black stucco with black and green marble chips imbedded; concrete with sandblast finish for lintels, garden wall caps; pavings of exposed aggregate concrete, slate, and brick; flooring of terrazzo, vinyl asbestos, wood; interior walls of brick in corridors at entrances and lower lobby, special lightweight block in other main rooms, except wood vertical boards in auditorium and glazed brick in swimming pool; ceilings are acoustic plaster, acoustic tile, or exposed concrete construction with sandblast finish; windows, aluminum sash.* ***Consultants:*** *Meyer & Borgman, Structural Engineers; Ericksen-Ellison & Associates, Mechanical/Electrical Engineers; Charles Wood Associates, Landscape Architects; Del Westburg, Interiors.* ***Cost:*** *$1,134,439.74; total construction cost, $18.04 per sq ft.* ***Photography:*** *except as noted, Balthazar Korab.*



A community center in the Midwest proves that such a facility can reflect the living pattern of the larger community in its provision for separation of activities, and privacy for different age groups, and at the same time make a notable architectural contribution to a rather nondescript neighborhood.

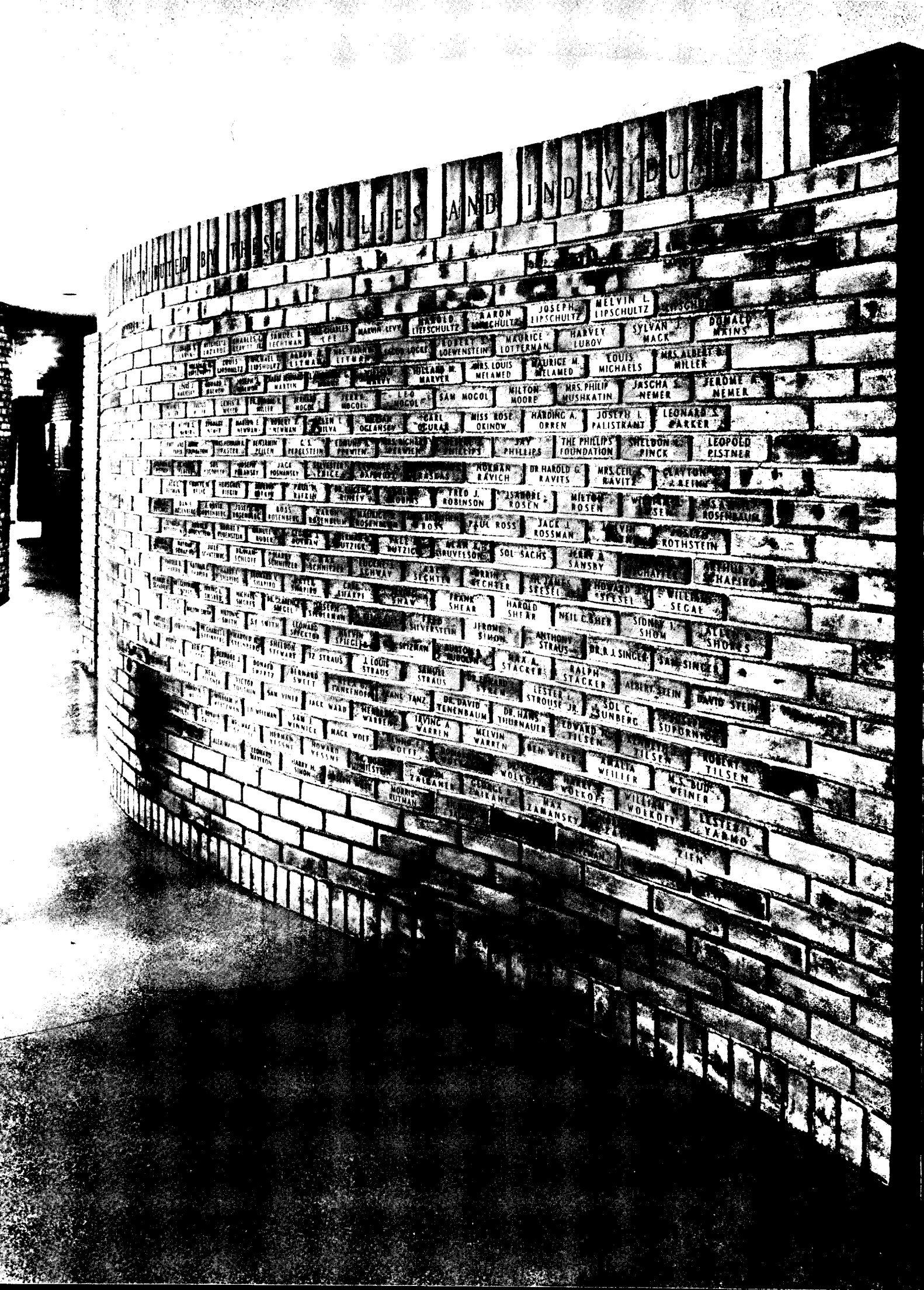
The fabric of a community is composed of separate areas where people can work, play, meet together, live together, or be quite alone with their families. That the composition of a community center should reflect this pattern should be obvious. Unfortunately, most centers are simply some kind of common space where everyone can get together and eat chicken a la king from paper plates or, depending on one's capacities, either indulge in or watch the weekly square dancing. Age groups are indiscriminately mixed, with consequent short tempers about "old fogies" or "young loudmouths." Activity patterns overlap, so that those playing basketball irritate a group trying to have a quiet game of cards, or the drama society, rehearsing a production of "The Boy Friend," can interrupt the contemplations of the executive committee trying to iron out the year's budget.

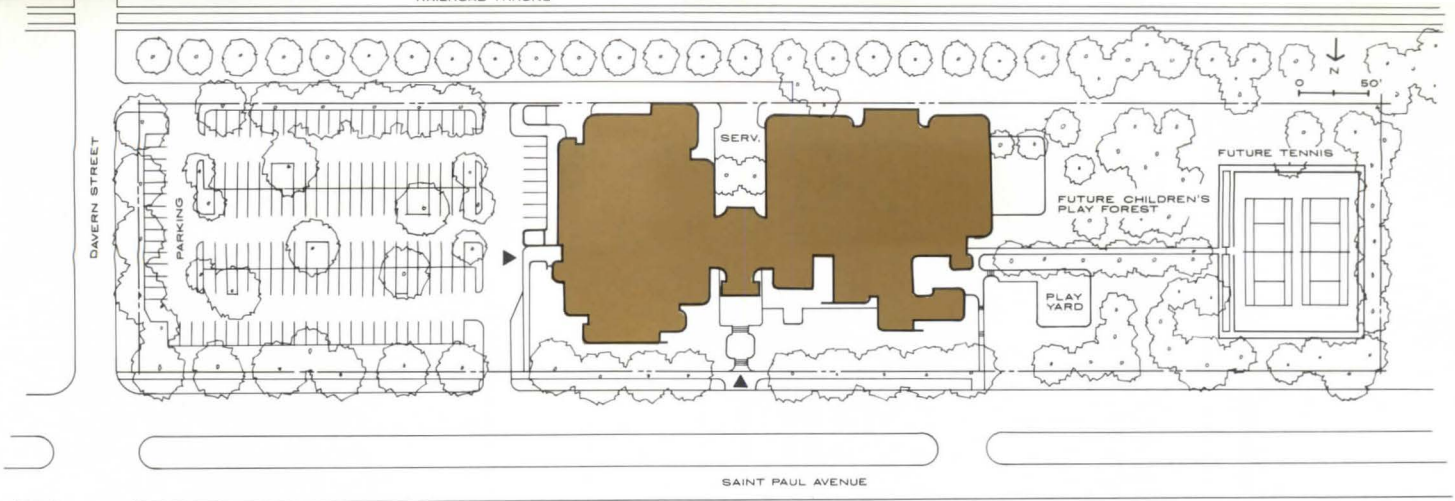
In addition to the necessity for providing a meeting place that will fulfill the needs of all groups on a "separate but equal" basis, the community center should, lacking some imposing structures such as civic or educational buildings, act as a focus for the neighborhood both architecturally and socially.

These requirements were in the mind of Leonard Parker after he was commissioned to design the Jewish Community Center of St. Paul. Since the site is a long, narrow (188' x 960') one between nondescript two-and-a-half-story apartment buildings on the north and a clogged railroad line on the south, the chance for the center to become the architectural highlight of the area was obvious. Less simple was the problem of marshaling on the difficult site the four main types of activity—administrative, meeting, social, and physical education—that the center would house. In addition, subsoil conditions consisting of rock 3 ft below existing grade dictated raising the building out of the ground so that foundations occur approximately at rock level and first-floor level about 6 ft above sidewalk level.

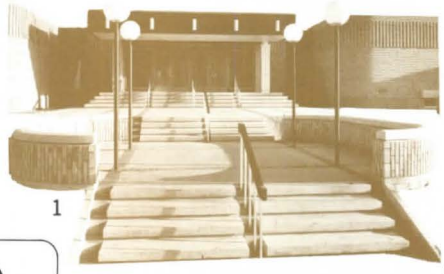
Hence, there were a number of factors dictating the design approach: the desire for an expression, in Parker's words, that "*community* implies diversity *and* cohesiveness; that there was a need to organize the many and diverse room sizes and functions so as to achieve a cohesive whole"; the limitation of desirable views from the site; the need to "break" long corridors necessitated by a long building on a long site; and the desire to express on the exterior the form of interior activities, thereby breaking up the façade into a series of distinct but related molded forms.

Inspection of the plans shows that Parker managed to divide his four activity groups not merely into that many spatial areas, but, considering the other necessary separation of older and younger age groups, into a total of seven related but quite separate areas: the meeting-board-

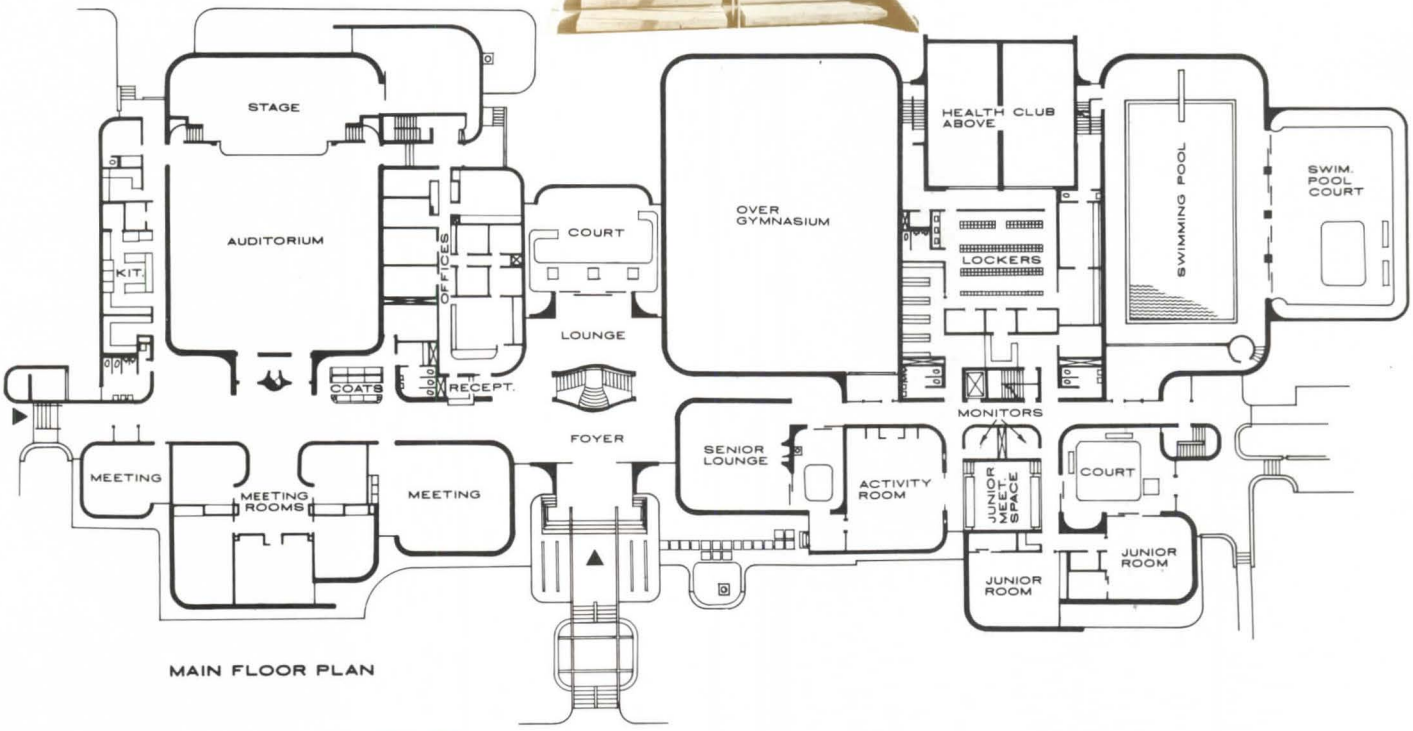

JOSEPH LIPSCHULTZ
MELVIN L. LIPSCHULTZ
HAROLD LIPSCHULTZ
AARON LIPSCHULTZ
HARVEY LUROV
SYLVAN MACK
MAURICE LOTTERMAN
ROBERT LOEWENSTEIN
LOUIS MICHAELS
MAURICE M. MELAMED
MRS. LOUIS MELAMED
HOWARD W. MARVER
SAM MOGOL
MILTON MOORE
MRS. PHILIP MUSHKATIN
JASCHA S. NEMER
JEROME A. NEMER
JOSEPH L. PALISTRANT
HARDING A. ORREN
MISS ROSE OKINOW
THE PHILLIPS FOUNDATION
SHELDON PINCK
LEOPOLD PISTNER
DR HAROLD G. RAVITS
NORMAN RAVICH
FRED J. ROBINSON
MILTON ROSEN
PAUL ROSS
JACK J. ROSSMAN
SOL SACHS
HOWARD SPIESEL
FRANK SHEAR
HAROLD SHEAR
NEIL C. SHER
SIDNEY L. SHOM
ANTHONY STRAUS
DR. R. J. SINGER
MAX A. STACKER
RALPH STACKER
LESTER L. STROUSE JR.
SOL C. SUNBERG
DR. DAVID TENENBAUM
DR. HANS THURNAUER
IRVING A. WARREN
MELVIN WARREN
BEN WEBER
AMALIA WEILLER
MR. & MRS. BUD WEINER
WILLIAM WOLKOFF
LESTER L. YARMO



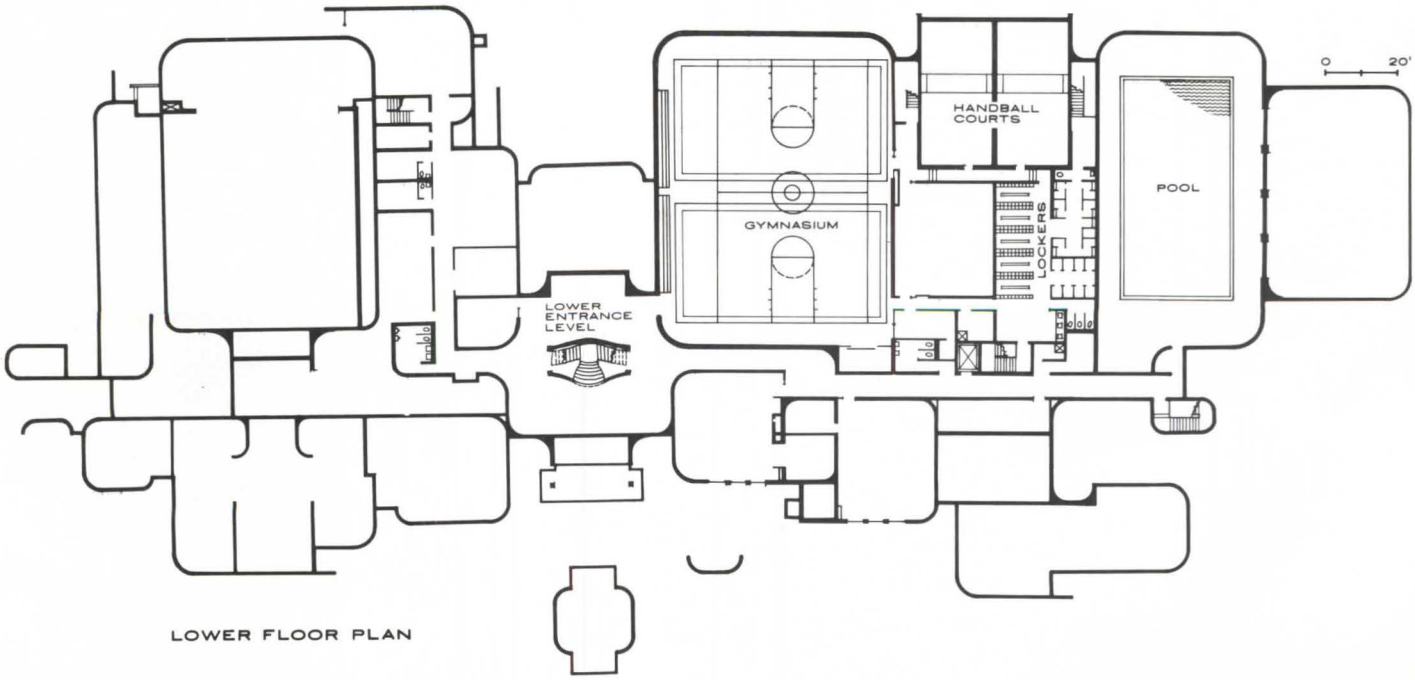
SITE PLAN



1



MAIN FLOOR PLAN



LOWER FLOOR PLAN

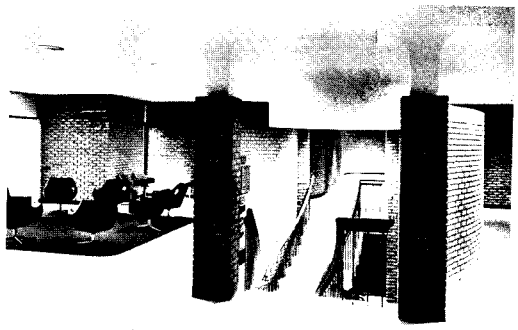
community room section; the auditorium–kitchen-drama workshop area; the administrative offices; the central foyer, lounge, and lounge courtyard; the senior adult lounge and lounge courtyard; the game room, youth lounge, courtyard, and playrooms; and the sports area including gymnasium, sports club (above the gym), handball courts, lockers, swimming pool, and pool terrace. Each of these areas is sufficient to itself for its own purposes. Older people relaxing in their own patio or playing cards are not aware of a party in the auditorium or boisterous goings-on among the young fry in the playrooms. The spine corridor of the plan, however, joins all activities, and makes at least the awareness of them possible to all. This very separation, according to the client, has been *too* successful. "The isolation of noise and the control of circulation, separation of functions were too carefully controlled," he says. Parker confesses that perhaps this aspect was overdesigned. "Even when being used by 300 to 400 people, the building lacks this bustle, vitality, etc.," he says. This writer, who was in the building when it had just opened for a Sunday's activities, feels that the activity in the main corridor, at least, was sufficient without being overpowering. The architect says, however, "I feel that had we designed to allow for more noise and confusion, the building internally could have been more alive, vital, and exciting in terms of one's awareness of the human interactions taking place within the building."

As it is, one is certainly aware of the *spatial* relationships taking place within the building. Entering from the parking lot area at the east end of the building, one traverses the auditorium lobby with the meeting rooms lobby **(2)** at the right. Here, also, are two well-designed, wooden, free-standing cloakrooms, by Parker (*see detail*, **9**). Passing through a narrower length of corridor at the administration section, one arrives at the central foyer and lounge **(3)**, open visually to the street at the front and the enclosed lounge court **(4)** at the rear (the architect was unaccountably fussy with steps, levels, and lamp standards outside, **(1)**, and a "baroque" stairway, **(5)** inside at the main entrance). Taking a slight jog to the left, a plan technique that serves to stop the long vista from the east entrance (p. 141), the visitor passes between the walls enclosing the senior lounge **(8)** and the gymnasium. A curve

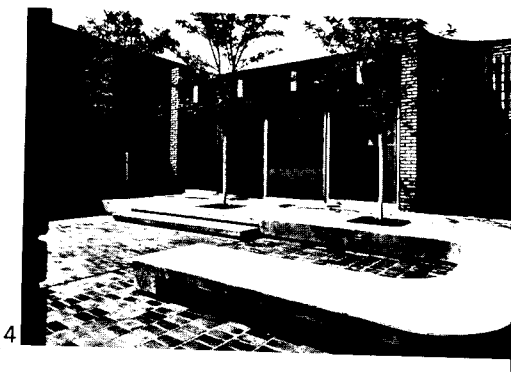
PHOTO: WARREN REYNOLDS & ASSOC.



2



3



4



5



at the end of this segment of corridor terminates its short vista and brings the visitor on the turn to a view of the senior patio **(7)**. Continuing, he passes the areas for younger members and emerges at the western end looking toward what will eventually be outdoor playing fields.

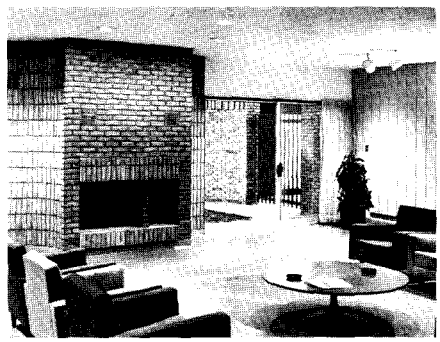
The principal plan device the architect used to achieve flow and separation both inside and outside the building was the radial corner. As noted, this form, in its convex and concave manifestations, can both stop the eye and lead the path around to another spatial experience. It also establishes a "recognizable repetitive form" (in the architect's words) that, despite variations in sizes, volumes, and uses of spaces, creates awareness of cohesion between different interior spaces and between exterior forms and interior spaces. The radial corner is the occasion, too, of some admirable brickwork, particularly when combined with the pattern of vertically-laid, raised-edge brick the architect uses as a distinctive fascia pattern on the exterior **(6)**.

Originally, the architects had planned to use brick more extensively than is evident in the finished project, as in a number of other interior spaces (such as the end of the west corridor and the youth lounge) and on the south exterior elevation facing the railroad tracks. Continuity of the material in these instances certainly would have made the building read more smoothly to a visitor experiencing it as a whole, but it is doubtful whether its lack is a severe aesthetic drawback to the people using specialized areas frequently. Wrapping the brick around the entire exterior is still possible, of course, when funds become available. This writer hopes that it can be done in the near future.

Parker says that his preliminary design proposed an additional courtyard between the auditorium and the meeting rooms. This was changed to an interior space, also for reasons of economy. This was an unfortunate omission for, as flowing a sense of space as one gets when traversing the auditorium lobby, there is nothing that says *stop* until one reaches the central foyer. A courtyard would have served this purpose, and would, at the same time, have brought some needed light into the area. Since the architect has expressed most of the interior spaces on the exterior using the radial corner technique, and since this easily accommodates his other aim of blocking out some of the surrounding views by turning the fenestration back

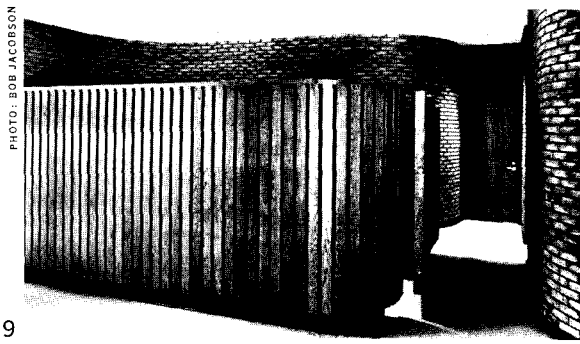


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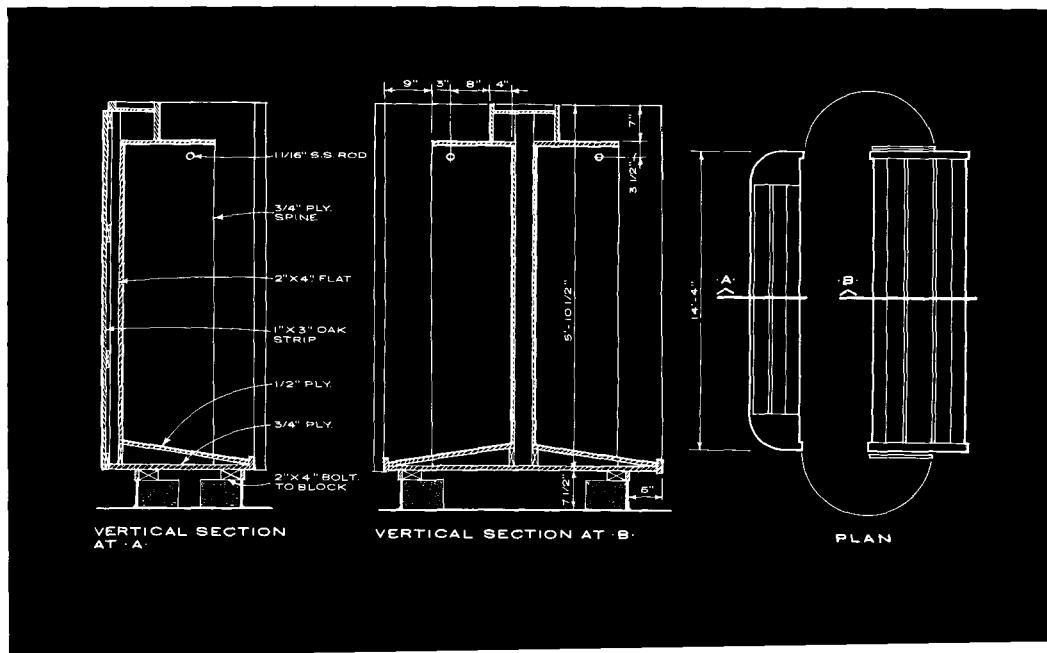


8

PHOTO: BOB JACOBSON



9



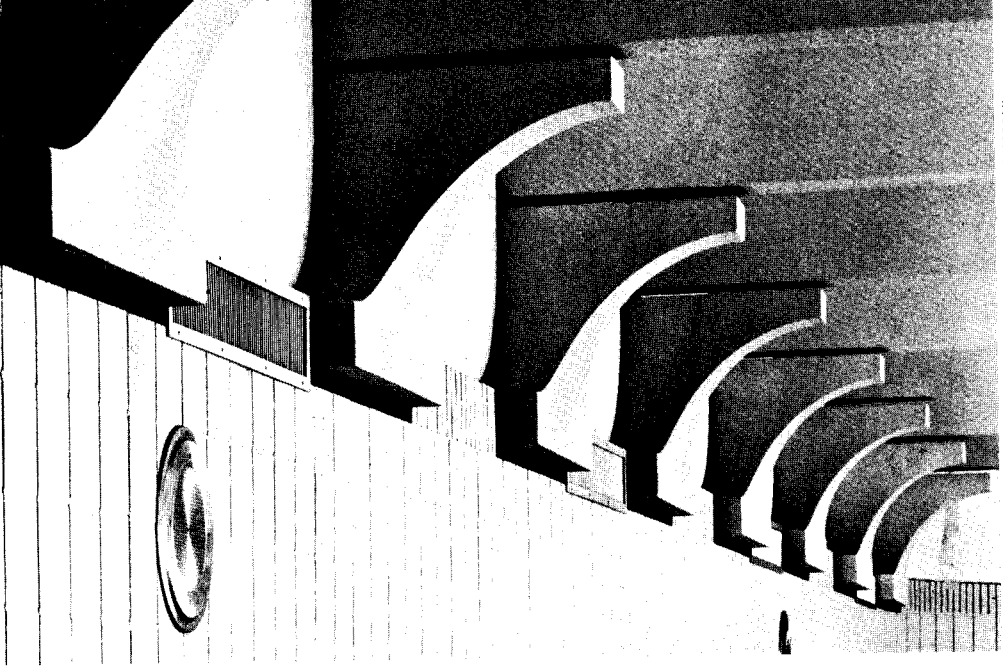
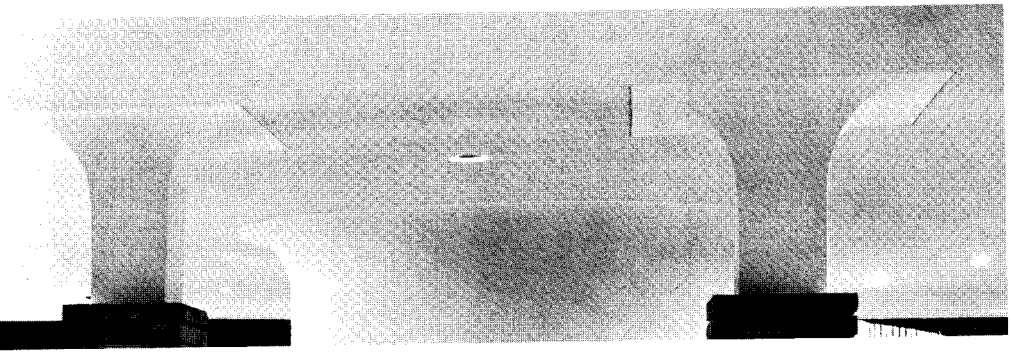
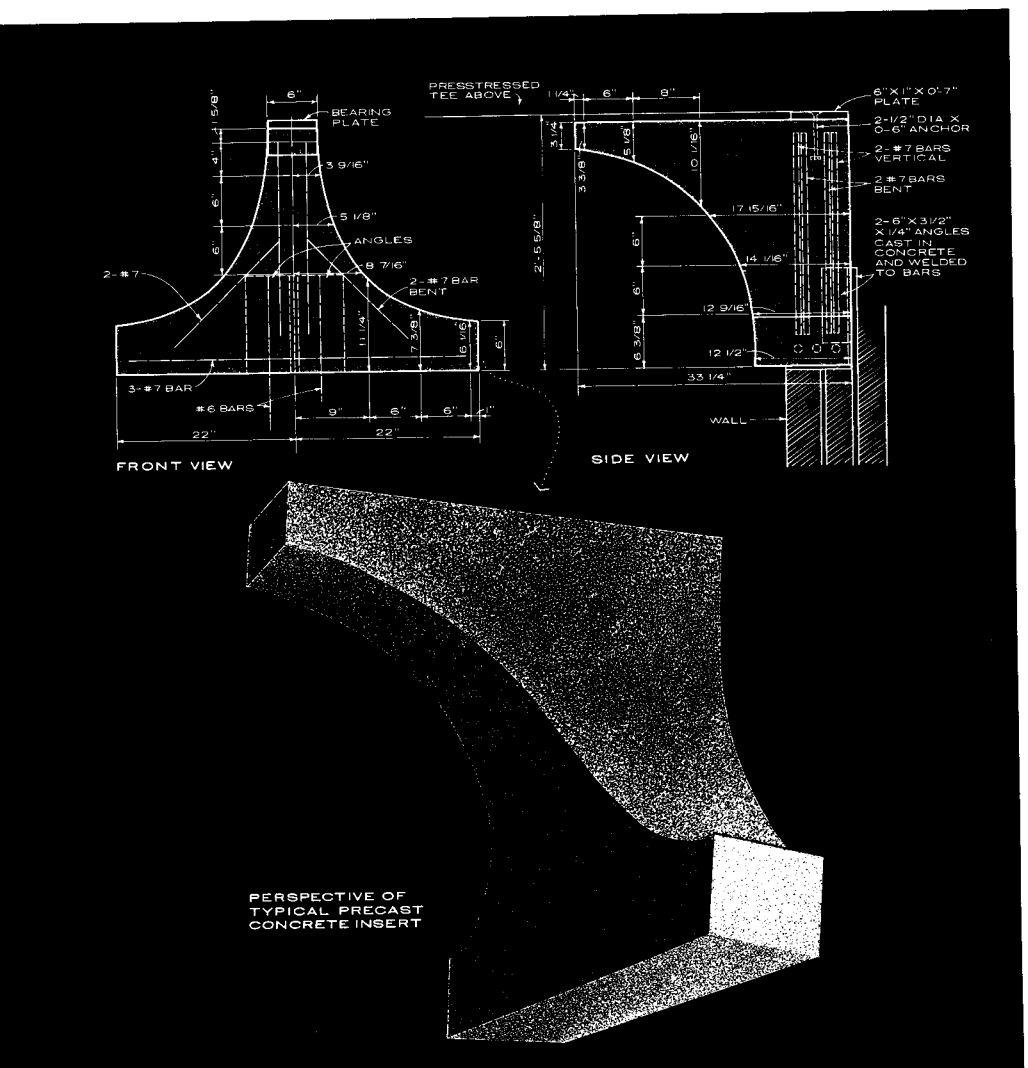


PHOTO: BOB JACOBSON

10



11



to the building itself and to its own landscaping and court spaces, there is a necessity for dependence on artificial light. The more lightwells in the building, the better. As Parker says, "Sunlight is a very cherished commodity, especially in Minnesota." The experiences of courts, windows, and skylights in this building are important, and usually occur where they make the most dramatic and practical sense.

The architect, who is the most ingratiatingly self-critical we have come across in a long time, feels that more could have been made of the "soft corner–interlocking volume" idiom. "In retrospect," he comments, "I feel that we were too timid in our exploitation of these elements. The building could have been much more broken down into related units." This may be so, though this observer feels that such an investigation on Parker's part should take place in a more complex, larger-scale building. The interaction of forms, functions, and corners here has been the most successful aspect of the building, going just far enough in complexity to achieve interest and diversity in unity, but not far enough to tip over into excited confusion.

Structure of the center is straightforward loadbearing masonry with, generally, bar joist and metal deck roofs and either slab on grade or precast concrete plan floors. In the auditorium, gymnasium, and swimming pool, the large areas are spanned by precast giant T-beams resting on special precast concrete bearing inserts (*see detail,* ***10***). The form of the inserts has been used as the motif for details in other parts of the building, evidently to add to the sense of continuity and oneness. Unfortunately, in one or two cases—for instance, the plaster-on-metal-lath capitals of the columns **(11)** in the entrance area—this becomes a decoratorish "delight" element. The marked elegance of the building itself belies the need for such gratuitous touches.

The client's cavil about the building's quietness aside, he is, according to Parker, "enthusiastically happy with the building," a feeling borne out during this writer's tour of the building by the chairman of the building committee. The major problems since opening day have hinged on the excessive popularity of the place: more people want to join the health club, use the kitchen, etc., than anyone predicted. These, certainly, are problems an architect can boast about. —JTB

L.S.D.: A DESIGN TOOL?

LSD has roused storms of controversy and has been the subject of nationwide publicity, often of a sensational kind. One of the less publicized aspects of the psychedelic drugs is their possible use in creative work. In an attempt to assess their value to the profession, P/A interviewed a number of architects who have taken the drugs on an experimental basis, and asked such questions as: Do the psychedelics heighten the ability to visualize three-dimensionally? Do they enhance creativity and problem-solving? Do they have a positive effect that outlasts a particular session? This article presents our findings, including extensive verbatim reports by architects and the design uses to which they put their psychedelic experiences.

Drugs that have a "psychedelic" effect on the human mind are, in their general order of potency, peyote, mescalin, psilocybin, DMT (dimethylthryptamine), and LSD (dextrolycergic acid dimethylmide). The word psychedelic, meaning "mind manifesting"—from the Greek "psyche" (mind) and "delos" (manifest)—was first associated with the drugs by psychiatrist Humphrey Osmond, Director of the Bureau of Research in Neurology and Psychiatry in Princeton, N.J. Dr. Osmond, in a letter written to Aldous Huxley, versified: "To sink in Hell or soar angelic/Just take a pinch of psychedelic." It seems a more appropriate term for these chemicals than their medical counterpart, "hallucinogens," since hallucinations are rarely listed as one of the effects of the drugs. Architects report that perceptions as such are heightened and changed, but they are based on real—as against imagined—objects present in the physical environment.

It is not yet accurately known what these chemicals do to the brain. Since LSD, for example, completely disappears from the system 30 to 45 minutes after ingestion, the drug is thought to trigger the action of some other, as yet unidentified, chemical. The drugs alter the brain's chemistry, certainly, and they seem to inhibit the activity of another chemical, serotonin, that regulates the decoding processes of that part of the brain where raw, incoming sense data are interpreted and transformed into factual information about the environment.

A number of architects have added to the extensive evidence of the drugs' use as instruments for enhancing perception, for "training in visualization." They report that, under the psychedelic effect of the drugs, visual and auditory acuity (in addition to general awareness) are "revolutionized." Apparently, the taker has the sensation of seeing for the first time, as children must see before they learn labels for their sense impressions of objects—directly, on contact. Colors seem to throb, textures vibrate, objects appear luminescent, everything is imbued with the glow of spring mornings. Aldous Huxley, one of the first to experiment with the perception-heightening effects of the drugs, which he described in his book, *The Doors of Perception*, even termed the experience as glimpsing the "morning of creation." Many say that the visual sensations are often accompanied by a sense of oneness with the universe and a disappearance of the feeling of being separated from other people and the physical environment. What is consistently reported is that the drug-taker remains acutely, totally, *conscious* throughout—not sleepily, drearily benumbed, as from too much alcohol. Indeed, the effects are termed by advocates as "consciousness-expanding."

Individuals are reported to derive from the experience with these chemicals what native endowment they bring to it: The

more visually oriented one is, for example, the more likely one is to have a decidedly visual experience. In addition, architects have reported that, for the visually sensitive person, the effects of mescalin and LSD include an increased ability to visualize three-dimensionally, to see images vividly—in general, a heightened perception of spatial relations. Abstract thoughts apparently are transformed into visual images; words become irrelevant.

Moreover, one does not forget everything the next morning. Because it is a conscious experience throughout, it is retained, and thus has been described as a learning experience.

LSD AND SPACE PERCEPTION

Kyo Isumi, an architect practising in Saskatchewan, Canada, has described his own perceptual experience with LSD as follows:

"The space and the elements which define this space, the color, the texture, the forms, shades and shadows, the planes, the solids and voids, become points of reference and yet meaningful in themselves. . . . The elements of architectural design, as partially listed here, each attain visual significance in order and intensity to fit the mind's needs. . . . It heightened my ability to visualize in greater clarity the interrelationship of the elements of design, which are — to use the jargon of the architect — scale, proportion, color, texture, shade, and shadow. . . . In my case, the LSD experiences acted as a form of catalyst in the thinking process during the course of design. . . . My new awareness, and the subsequent accompanying phenomena of being able to experience simultaneously in series and in parallel the numerous perceptual effects of space and all its elements, would not have been achieved in almost an instantaneous fashion without the aid of LSD."

As Izumi's description makes clear, the quality, as well as the quantity, of visual perception is altered. Usually, physical objects and the environment are not seen as things in themselves, comprised of their own material, sitting within their own universe of weight, color, form, and texture. The preconceptions with which we habitually perceive objects—a chair as something to sit on, a lamp as something that throws light—are transcended, and objects are experienced as things in themselves, not merely as serving some particular function, but as colored, textured, seemingly alive *forms*. Architects report that the relevance of the psychedelic drugs should be apparent: A substance that enables man to increase his visual awareness, that heightens his ability to visualize three-dimensionally, might have serious and far-reaching applications to the practice of architecture, especially as buildings become more complex.

LSD AS AN AID TO DESIGN

Kyo Izumi took LSD in 1957, when much of the research being done with it concerned its "psychotomimetic" effects—that is, the similarity of visual perception in schizophrenics and normal people experiencing the effects of LSD. The emotional experiences that accompany the perceptions differ, however, since normal people maintain their own consciousness and basic patterns of emotional response; the "mimetic" effect of LSD is that normal persons can *not* perceive the environment the way a schizophrenic does and psychologists believe that how and what one sees largely determines what one feels in response to that seeing. This is not to say, however, that the way one sees when using LSD as a psychotomimetic is the same as the way one sees when the drug is not being used for that purpose. In fact, that is apparently how some of the extraordinary properties of LSD were discovered; some people just did not begin to perceive schizophrenically. Instead, they felt they were "seeing for the first time."

In approaching the problem of designing a mental hospital, Izumi knew that the mentally ill see the world differently than other people and that their altered perception influences their moods and feelings. LSD enabled him to enter their experiential world and thus to perceive the architectural environment as they do. The purpose of Izumi's experiment was to discover and then to avoid qualities of design that are confusing, terrifying, and psychically destructive for mentally ill people.

Besides this specific aid to Izumi in designing a mental hospital, LSD seems to have changed his attitude toward architecture generally:

"I no longer design for architects. I am now trying to design for human beings. . . . A most significant effect was on my concepts of aesthetics. Like most architects, I was seeing space as more of an aesthetic experience, without regard for what people would be doing in it. I now began to think of people living and working in these spaces. . . . I am much more conscious of spaces with relevance to the human being and in this sense critical of architectural spaces in which the human figure becomes an intrusion. In a similar way that some people see a 'halo' around their favorite subject, I am much more conscious of the 'territorial space' around a person that appears to move with them. . . . The acquisition of the sensitivity, and certainly the awareness of these phenomena to this intense degree, would not have occurred in such short order without the LSD experience."

LSD: THE DANGERS

One danger of LSD is its potency. One ounce contains 300,000 dosages of 100 micrograms—approximately the size of a grain of salt. Even when conditions are clinically right for its use, reactions to overdosage include extreme fear, panic, and sometimes a temporary psychosis. Perceptions and images reel through consciousness with an incomprehensible rapidity the mind cannot tolerate.

But the potency of the drug should not be confused with the drug itself. That is like saying that all driving is dangerous and that driving at 10 miles an hour is as dangerous as driving at 100 miles an hour. Furthermore, the reasons why a driver is in his car on a particular day have a lot to do with how dangerous his driving will be. If he is out for a thrill, he will be more dangerous than if he were out to demonstrate techniques of careful driving. And all of this has nothing to do with the car itself. The automobile is only a device, an instrument for getting from place to place, just as the psychedelic drugs are described by researchers as devices, tools for the exploration of the mind—a method for going from one level of perception to another, for experiencing the varied effects of a temporary alteration in brain chemistry.

A second danger of LSD (and the other psychedelic drugs) lies in the nature of the experience itself. As Osmond's verse indicates, it can be heaven or hell, and will depend, according to research findings, on three specific variables: the setting, the psychological "set" of the drug-user (his expectations, his reasons for taking the drug, his personality), and the qualities and expectations of the person supervising his use of the drug. That the outcome depends on these conditions has been amply documented. The experts apparently agree that the most dangerous situation occurs when the potent chemicals are used indiscriminately for thrills, binges, or on momentary whim. It is clear, however, that much more research is needed to determine exactly what effect the drugs will have under particular circumstances. So far, though, researchers report that, if the setting is comfortable, warm, and relaxing, the motivation of the person ingesting the drug is a serious one, and he is not psychotic (and the person with him is sympathetic and confident), the risk is minimal.

In spite of all the unknowns and uncertainties surrounding their use, the "hallucinogenic" drugs have reportedly been safely and constructively used in the treatment of psychoneuroses, frigidity, alcoholism, and even given to terminally ill cancer patients so that they can bear their pain and face death philosophically. Until Sandoz Pharmaceutical Company voluntarily stopped supplying LSD to investigators sanctioned by the National Institute of Health, some 54 research projects were being carried out (primarily into alcoholism, psychoneurosis, and schizophrenia).

What would seem to emerge from the serious literature on the drugs is their unique, "midwife" quality. Dr. Robert E. Mogar, Associate Professor of Psychology at San Francisco State College, has commented, "Whether expanded awareness or increased insight accompany these unhabitual perceptions and altered frames of reference is *not* a function of the chemical agent." Apparently *none* of the effects of the drugs are simply spontaneous and general; results depend on how they are used and on whom. It would seem that architects, then, even though their visual abilities are high, might not experience the euphoria of imagery recounted by Huxley and others unless the situation is so structured and supervised that they can.

THE MEDICAL EVIDENCE

To sum up the medical evidence concerning these chemicals, Dr. Sidney Cohen, Chief Psychiatrist at the Veterans Adminisration Hospital in Los Angeles, has stated: "Psychotic reactions lasting more than 48 hours after ingestion totaled less than two for each 1000 [mental] patients, and only two for each 2500 normal volunteers"—in *all* the clinical work done to date with LSD. C. C. Dahlberg, a prominent New York psychoanalyst, has used LSD for years in psychotherapy. He has said that he never gives it to a patient before three months of analysis have been completed, and that he has not yet had an unfavorable reaction. Finally, Dr. Mogar summarizes the results of 300 experiments using LSD as a therapeutic agent:

"Despite great diversity in the conduct of these studies, impressive improvement rates have been almost uniformly reported. . . . Based on findings with more than 1000 alcoholics, LSD was twice as effective as any other treatment program."

Mogar also believes that the possibility of positive bias in these reports is offset by their consistency and the divergent theoretical persuasions of the researchers.

In the context of the recent publicity about these drugs in the press generally, which has tended to stress the sensational and the more negative aspects of LSD, it is interesting to note a recent report of the Subcommittee on Narcotics Addiction (which, technically, has no business with the non-narcotic, non-addicting LSD). The subcommittee examined the records of 52 people who had taken the drug privately, without medical supervision, and who were admitted to the psychiatric division of Bellevue Hospital in New York City with "acute psychoses" induced by LSD, and found that 12 of the 52 had "underlying psychoses or schizoid personalities" before they took the drug, and "most of those with acute LSD psychoses recovered rapidly, 30 becoming oriented and normal in less than 48 hours. In an additional 10 patients, the psychoses were resolved in less than a week."

It would seem, then, from the available literature, that, for normal persons administered the drug in the proper setting, psychedelic drugs are not routes into madness. But, as yet, too little is known about how the drug actually works and what the long-term psychological and physical effects of its use are to make them available to the general public for self-experimentation. Approximately 5 per cent of the U.S. population is believed by psychiatrists to be predisposed to schizophrenia; an untold number in addition harbor psychotic inclinations. For these powerful and unpredictable drugs to get into such hands is dangerous both for them and for society.

LSD AS AN AID TO CREATIVITY

Architects are apparently interested in the psychedelic drugs because of their perception-enhancing qualities, but Neill Smith, a San Francisco architect, is interested in them because of their effect on his ability to function creatively. He told P/A:

"I felt the effects of my two experiences with LSD to be positive and beneficial. . . . About the application of psychedelics in the field of architecture: It seems to me that the value of these drugs cannot be discussed apart from their effects on the total personality of the individual involved. My own experience effected changes in my thought processes and my abilities in dealing with three-dimensional imagery. But, even more importantly, there was a change in my approach to architecture through changes in personality structure and needs of my psyche. My whole approach to design has become far less concerned with conceptual structure and preconceived notions of form or ideal content. Instead, my interest has been on an increasingly more flexible, existential, or ontological design process. It is particularly in this respect that I think LSD and the other psychedelics seem to have the capability of enormously enhancing the human potential.

"In observing myself and others who have taken LSD, DMT, and the other psychedelics with a constructive orientation, there seem to be two general effects on almost any level. One is the enhanced ability to function; the other is the greatly increased degree of personal and intellectual freedom that develops after taking the drugs."

Henrik Bull and Eric Clough, both California architects, took mescalin in creativity experiments carried out by the Inter-

national Foundation for Advanced Study in Menlo Park, California. Like many of the research results reported, it was exploratory research that remains to be verified by more controlled studies; the results obtained are apparently in general obtainable only when the subjects are directed by specially trained persons. Henrik Bull commented:

"My experience during the session was an unbelievable increase in ability to concentrate and to make decisions. It was impossible to procrastinate, one of my favorite hobbies. Cobwebs, blocks, and binds disappeared. Anything was possible, but I was working on very real and rather right problems [during the session]. The designs were more free, but probably more from the standpoint of removing blocks in the consideration of what I felt the client might accept. Three designs were outlined in the three hours. All were accepted by the clients; one was tossed out after I saw that a better solution was possible. Perhaps this is the greatest long-term effect—a greater flexibility.

"There is definitely an enhancement of the ability to visualize, but my experience was that I became a better Henrik Bull, not Gaudí or Wright. I do feel that every architect should have the experience, to see what potential lies within himself. Beyond the usefulness, the experience was highly enjoyable and really quite fantastic."

PROBLEM-SOLVING UNDER LSD

Bull's point that he was not suddenly transformed into Wright or Gaudí is an important one, illustrating that these drugs do not work miracles, just as they are not yet believed to be destructive. Commenting in greater detail on his "session" in the International Foundation study of creativity and the psychedelic drugs, he continues:

". . . I had felt for a long time that my life was plagued with necessary but relatively unimportant detail work that was interfering with my creative work. The detail work was in competition with the design work, and both were suffering. Beyond that, I felt that my design efforts were often repeating old ideas and should be more free in spirit. These are the reasons I took mescalin. . . . [After the morning session of listening to music], I was looking forward to the opportunity to attempt some of the professional creative problems we had been told to bring with us. There were four of these, ranging from an extremely complex state college building with a program of 82 pages, to a rather simple vacation house. . . .

"The simplest problem was attacked first. Almost immediately, several relationships that had escaped my attention became apparent, and a solution to the spatial relationships followed soon after. I avoided looking at a watch throughout the session, but I would guess that 20 minutes had elapsed. Quite normally, I would stew and fret for weeks before coming to such a solution. Not to be misleading, on a simple problem the period at the end which is truly productive is often quite short under normal circumstances, but in any case a matter of hours. . . . Quite literally, I had only a head to think and a hand to make sketches and notes. . . . The first problem completed, I felt very exhilarated, and could not wait to get on to the next.

"This was basically a site problem, locating a number of condominium houses on a very beautiful piece of property. The decisions came very quickly and I outlined a solution which pleased me in a very short time. In passing, I investigated the economic yield to my client for several similar solutions and decided on what I felt was the best one. Why not do a typical floor plan for one of the units? This, too, was accomplished without my usual number of false starts. . . .

"[He began to work on a house for a client who had turned down several previous schemes]: This time, my approach to the problem was unrelated to all previous attempts, and I looked at the challenging site in a new way. I really believe the solution that resulted in a few minutes is better than any of those which preceded it. This is a job which has taken several hundred hours of time, and represents a great money loss for the office. Why had I never seen this solution before?

"I should emphasize that the solution *could* have happened before. It belongs to the same family as my earlier work. The only real difference was that the solution I felt right about appeared in almost no time at all. . . .

"The day had started at six in the morning and ended 22 hours later. It was probably the shortest and most enjoyable day in my life."

AN ARCHITECT DESCRIBES HIS EXPERIENCE IN FULL

Architect Eric Clough took part in the same study of creativity. He told P/A of his two experiences with mescalin in detail. He pointed out some of the dangers as well as the benefits for him, which included a great improvement in his problem-solving capability. What follows is Clough's verbatim account:

"After ingesting the drug [mescalin] the first time I took it, I lay down on the floor and began to melt into the environment. I felt as if I were a mass of protoplasmic jelly that was just creeping out into and infusing with everything around it. I felt some tension and wondered why—I'm generally relaxed—and I realized that, along with this melting of my general being, my ego was melting too. I visualized my ego as a head sticking up above the protoplasm, trying to preserve itself. Once I realized that and could laugh at myself—at my ego—it just went flop and away I went. The general feeling and the mental imagery that was involved in it had to do largely with a total involvement, physically and emotionally, with the world about me, and with life in general. I tried to think about what was happening and realized that I was trying to intellectualize about what was the most complete thinking process that I have ever experienced. I laughed again at how foolish we are sometimes; we think about thinking and we think about being when it's so simple and basic to just be.

"That day, without thinking about it, I experienced a deep inner knowledge of the philosophies that man has devised for himself through the centuries. I didn't any longer just intellectually understand philosophy, but I *knew* life and I *knew* that all the philosophies are essentially and integrally the same. I realized that man makes

structures for himself—that is, constructs—which are all essentially paradoxically ridiculous, but at the same time are really necessary as ways of dealing with the world and ourselves.

"I went from seeing myself as Professor, World's Foremost Authority, to a Zen master sitting on a mountain-top and seeing all the human constructs in a series of structures—abstract kind of geometric forms which interlapped and overlapped and stood on top and underneath. They all seemed to be the same thing and they all seemed to be very, very ridiculous. I felt that, as a living thing, I was integrally a part of life, and, while I didn't ask for that particular state of being, neither could I accept any particular responsibility for it having happened, yet I was at the same time totally responsible for life itself because I was integrally involved in it.

"One interesting thing about the psychedelic experience is the way in which these ideas, thoughts, feelings—whatever they might be called—come to one. Normally we use words as tools to form constructs, communicate, and to think with, but in the psychedelic experience there is really no thinking process involved. Thoughts are essentially mental images—very, very clear, and complete, and integral with being, so to speak—so that the thought-process, as we normally know it, doesn't really exist.

"During the almost two years from the first to the second experience, I would say that my general ability to think in pictures, rather than in words, was much enhanced. My ability to flow easily with life was enhanced, and therefore my creativity. There was less internal friction and a greater ability to focus on what I was doing, thinking, or designing. I don't think I learned anything new about design, but found it easier to explore possibilities in a freer way.

"[The second session was the actual creativity experiment at the Foundation.] The problem I brought to the session was an art and cultural center on a site near the new University of California campus near Santa Cruz, California. Prior to the session, I thought about the project and discarded many different schemes. The day before the session, I had a basic construct in mind and an idea of a good solution for the problem. We were instructed to go into the session thinking about the fact that we were going to work on a particular project. There were three of us in the room that day: two physicists and myself, each working on his own project. We were told not to think about our projects as such during the morning but to be as open as we could.

"That morning, at 8:30, we talked for awhile, lay down, put on earphones and eyeblinders, and listened to stereo music for the bulk of the morning. My morning experience ended at 10:30 because I was anxious to get to work, but a program was set up so that we didn't work until noon. So I patiently waited until it was time to go to work. I took a technicolor dream trip through history: I found myself swinging through trees with a lot of other people, but we were all pretty much simian and we seemed to be enjoying ourselves. I could see the forest—or jungle—the flowers, the other 'people,' having a delightful experience, chattering back and forth in words I didn't understand but the mood seemed a very happy one. Immediately after that I was in a cave, with prehistoric paintings on the wall, people both clothed and unclothed sitting around a fire. I was eating a great chunk of raw meat, sort of braised meat. Particularly I noticed the environment we were in—the figure drawings on the cave wall. Immediately after that, I was in either an Incan or an Aztec village, wandering around through a market place that was the center of a large square, looking at the temple which was very huge and impressive, seeing the people in the market place, looking at their mode of dress—the gold ornaments the wealthy people were wearing, stopping and eating a piece of fruit at a stand; essentially living in and being a part of this beautiful city I was in. After that, I was in a formal ballroom, dressed in what looked like one of the old tintype photographs, talking to people with a very formal approach, feeling very formal inside and noticing the architecture of the huge ballroom, the big windows made up of small panels of glass, the clothing the people were wearing, the dancing. Then I was in an ice-cream parlor in the Roaring Twenties. Everybody was having a terrific time in the 23 Skidoo style, which somehow felt very superficial. Then I was in a modern city the likes of which I have never seen. It is best described as the "City of the Future"—the kind P/A occasionally publishes as concepts for redevelopment. Everything was new, everything efficient, everything beautifully articulated.

"I sat up at about 11:00 with the strong feeling that everything having to do with the history of architecture and everything having to do with leading all architects, all designers, myself, up to the cultural point we are at now with the ability to design based on experience and knowledge of the past—that all of this was fine, but any copying of or taking directly from any past age or any other culture was ludicrous, meaningless, and had no validity in a fresh design approach. With this feeling, the prior ideas I had had about my project were all gone; I found myself in an absolute void of idea and creative thought. It was about noon; the others were aroused from their eyeshades and earphones. We had some lunch, talked awhile, and then it was time to work.

"I sat down with a sketch-pad and drew a square outline of the property, looked at it, and had absolutely no idea at all of what was appropriate to solve the problems. I must have looked at the paper for 5 or 10 minutes with an absolute blank. And then, all of a sudden, with a total flash of an absolutely clear, completed project was the cultural center—designed, built, complete before my eyes. So complete that I could walk through it in my imagination, see the architectural detailing, see the insides of the shops, and so on. It was a totally complete, finished product. So I began to do the plot plan layout. I knew I had to have so many square feet of building, so many car parkings, knew the circulation patterns. I began to draw what I saw and everything fit precisely, and, although I had a scale ruler with me, I hardly had to use it, because everything seemed to be exactly as it should be and fitted exactly as it would if I were measuring it. I doodled figures around the edge of the sheet, trying to arrive at per sq ft estimates of construction cost, total value of project, potential monthly income. And all of these factors seemed to work too, so that the project had economic feasibility. As rapidly

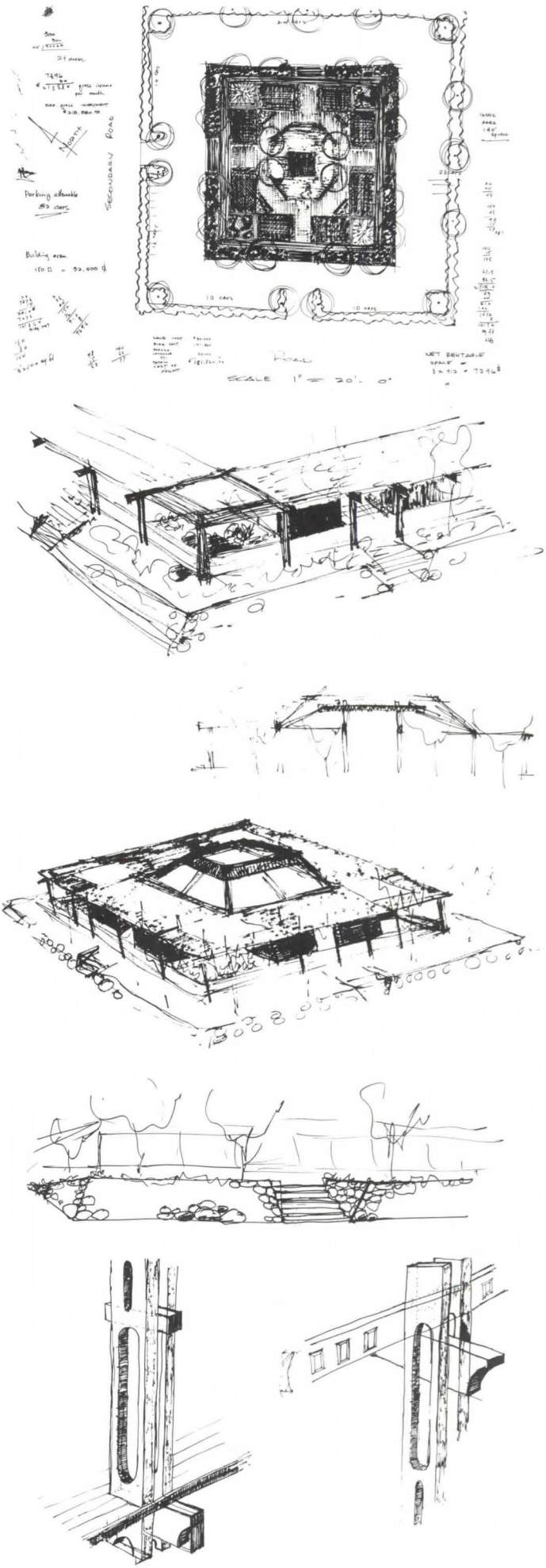
as I could, much faster than my hand would work, I tried to capture the essence of the building project, of the Center. I was almost certain that my total knowledge of it and how it was built wouldn't stay with me, and therefore I had to get symbols down on paper that would give me a key back in later. This was done in about an hour—the total process—and the project was completed.

"While I felt I could certainly go on and do a great deal more work on the center, I instead had a lot of fun designing. I designed a little meditation house, for example, in the woods—in my head. I could see it just as completely as I could see the center. I designed a couple of mountain cabins, and I designed a residence that was larger than the cabins. I played with a piece of sculpture for a mailbox. This was all pure mental projection. I felt I had done my work for the day; in fact, the way I normally would work I had done something like four or five days' work of really good production in a matter of that hour-and-a-half or so. I spent the rest of the day enjoying and looking at the other people's mental wheels turning. They were sitting there deep in thought, working through very complex problems—one on light patterns and photons, and one on other things, just as complex, having to do with the neurological patterns of the human body.

"The psychedelic materials seem to be 'facilitators', or perhaps 'focusers.' I think that what this experiment showed is that it's possible to use the materials to focus on anything, or to facilitate focusing on anything, that one may choose to do. So they could be used for designing, as I did, for scientific thinking, as others did, for psychotherapy, for explorations into telepathy perhaps—I don't know what the potentials are. I learned from being with the Institute twice that the setting is the vital part of the experiment with psychedelic materials. They open the unconscious completely, although it can still be tapped directly into a focus; but unless there *is* a focus, and unless there is a protective atmosphere, I think there is a great danger in having an experience that would be wide open to I don't know what: Some of the horrors of the unconscious, the losing of all structures that one functions with and not being able to replace them, or to replace them in a way that is antithetical to the society in which we live. I see a great danger in the misuse or the playing around with the psychedelic materials, but I'm tremendously enthusiastic about their potential. I want to say: All architects ought to have this experience. Maybe everybody ought to have this experience. But it would be sheer insanity to have mass distribution of the drugs and say to everybody, here, let's see what can be done.

"Conjecturing about how the psychedelic experience enhanced my awareness and what it can do for the future: The project I designed isn't particularly unusual in architecture. Essentially, I had a problem to work out that needed a comfortable, warm architecture; it needed to have a feeling of culture, a feeling of artistry that wouldn't, as I see it, dominate so strongly that it would essentially destroy the integration of other people's arts into it. So, in the sense of using the psychedelic session for the creation of something totally new or even very different—that is something I wasn't involved in trying to do. What I was amazed by was the facility with which problem-solving was

Sketches by architect Eric Clough of art center designed under the influence of mescaline (see adjoining text).



enhanced. Until the time of the session, it had been a fairly difficult problem; I hadn't been able to solve it in a way that I was happy with. The solution came so clearly and so completely and with no problems to readjust, that I think, for myself, the value was in that ability to problem-solve in such a complete, thorough, and rapid way. This quality has stayed with me. It was five months ago now. I am not functioning every day as I did on that day, but I've had the experience of sitting down in the morning and designing six houses in three hours—in rough, very crude sketch form. I have done a little bit of very free thinking and very free sketching on new forms and new shapes—things I hadn't attempted before—and I'm pleased with these too.

"While people have said their experience doesn't stay with them, I think that somehow I learned something from it. I learned that whatever I was able to do that day was not because of the drug, but because the drug allowed me to function in a way that I was capable all along of functioning, without the usual frictions we encounter.

"Perhaps the next step is to try and work out totally new concepts. Perhaps a whole new view of architecture could be developed. I'd like to see someone like the Institute put a group of people together in a problem-solving session where they were all working on the same project, for example. I believe that the psychedelics are a tool—like a key to open doors so that we can look at old things in new and open ways. This is what we are capable of all the time but we don't usually recognize the fact that we are."

THE WIDER IMPLICATIONS OF LSD

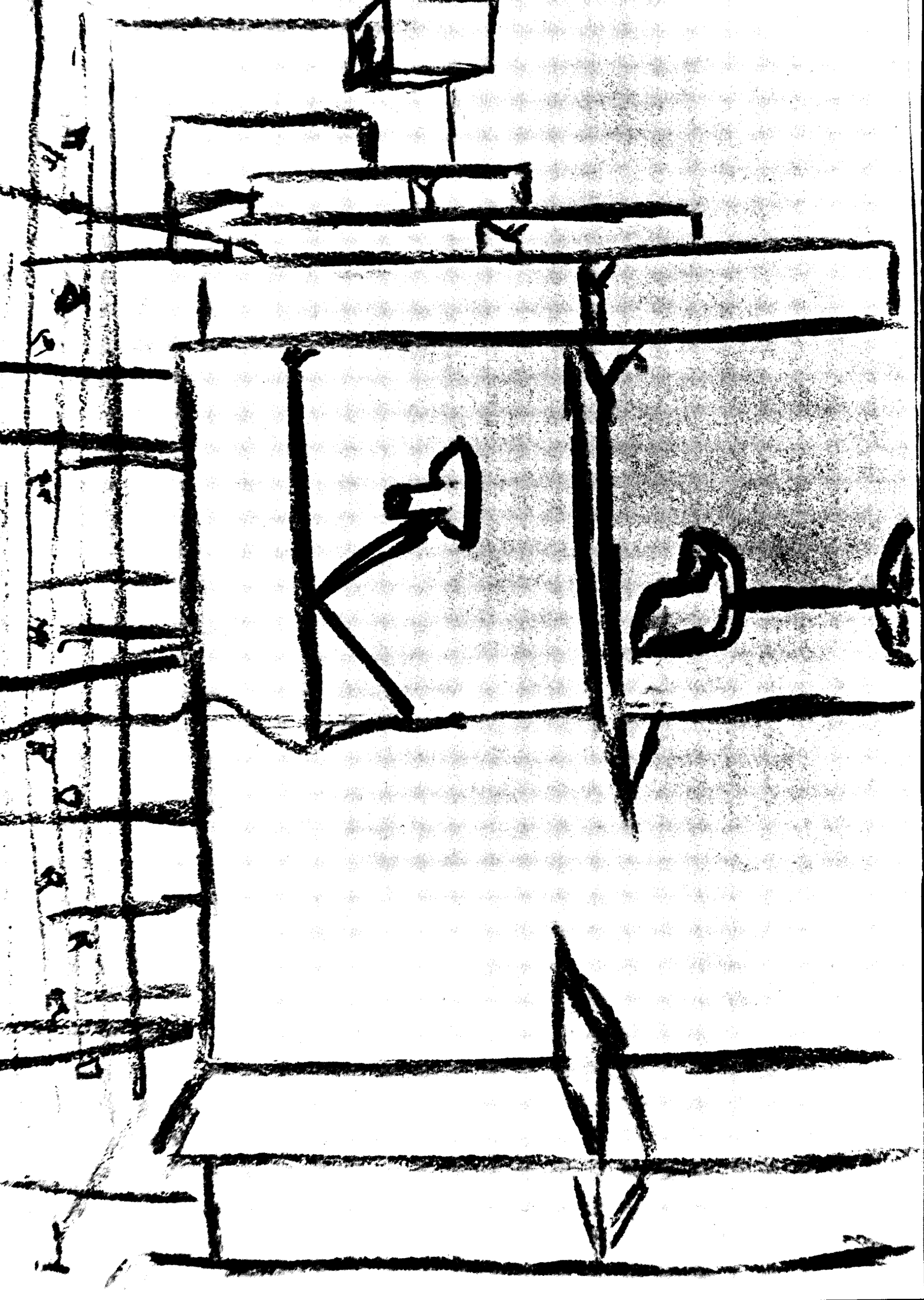
The social and cultural implications of the psychedelic drugs have been widely commented upon. It is easy to speculate that 20th-Century Man, living in an age of scientific revolution that has overthrown in the span of a few decades the social and moral assumptions of several centuries—an age where theologians themselves are forced into anguished debates as to the very existence of God, and where the new technology is rapidly dehumanizing man—in such a context, the appeal of drugs that promise man a supposed ability to transcend the routine sense of self and environment are obvious. Whether these more mystical claims to self-discovery have any legitimate scientific base remains the job of steady, sober scientific study in the years ahead.

In terms of the limited aims of this article, the psychedelic drugs are of interest to the profession to the extent that they may be shown to facilitate creativity and problem-solving. The difficulty is that the nature of creativity itself, of talent, even of genius, although under scientific investigation for decades, still contains areas of mystery and speculation. Whether pharmacology can bring new weapons to bear in the war that psychologists and psychiatrists have been waging for so long is the interesting issue.

When one considers the enormous complexity of the brain as the ultimate instrument that classifies and interprets all the sense data the individual is exposed to, the problem becomes apparent. The brain receives one billion signals *per second*—many more than normally reach consciousness. There are between ten and thirteen billion brain cells, and each one is connected to 25,000 other cells. As yet, researchers have little knowledge of the chemical processes that occur among the cells. One of the great mysteries of the psychedelic drugs is whether or not anyone will be able to demonstrate that what an individual normally sees and experiences is more "real" than what is experienced with the aid of the drugs. They are repeatedly described as chemical agents that can somehow *open* the mind, allowing the free flow of sense data directly into consciousness, unimpeded by the intellectualizing, the categorizing according to preconceptions the individual normally resorts to. And yet this massive influx of sense data is experienced in a fully conscious state. Interestingly, from the descriptions of many who have taken the drug, the psychedelic experience seems to correspond to the world as it has been described by physicists—a world composed of minute, moving, bobbing particles of energy called electrons; everything is said to move and pulsate.

Another interesting aspect of the psychedelics is what several research psychologists have termed the similarity between the effects created by these chemicals and the sort of consciousness identified with creativity: The ability to become detached from everyday experience and become totally absorbed by deeper levels of awareness, coupled with the ability to abandon this detachment and return to normal levels of consciousness. A rather far-removed speculation in this respect that has been forwarded by some commentators is the fascinating possibility that in future years the psychedelic drugs may make accessible to the average man levels of consciousness and perception previously restricted only to the artist.

The consensus among the architects P/A interviewed, several of whom we have quoted in these pages, seems to be that LSD, when administered under carefully controlled conditions, does enhance creativity to the extent that it vastly speeds up problem-solving, aids in visualizing three-dimensionally, and generally heightens perceptivity. The drug apparently cannot give an architect more talent than nature originally endowed him with, but it can make it more accessible. In a sense, Henrik Bull summed it up when he commented, "My experience was that I became a better Henrik Bull, not Gaudí or Wright."



HYBRID WALLS



As their first lesson, architecture students at the University of Tennessee get to build their own school interior with minimal new elements.

After an autumn month of classes down by the riverside out in front of Estabrook Hall, students and faculty of the first School of Architecture in the State of Tennessee turned hands to a do-it-yourself instant partition-wall-furniture system and built their own interior spaces to fit their own curriculum.

The happening was pretty appropriate to the new dean, 32-year-old Bill N. Lacy, whose live-wire ideas on education were bound to be put into action.

"Architectural education at its best has been a sort of adult Montessorai," Lacy observes. "If we have had successes in turning out broad-thinking graduates, it has been due in a large measure to our disorganization. What is taught in any school of architecture changes every time there is the loss or addition of a new faculty member. This is fairly frequent with the fluid state of most architectural faculties."

So Lacy needed "a system of space organizing elements that could be easily arranged to accommodate the nature of the product in which the class was engaged and to accommodate the dictates of the individual student's working habits." He also wanted "for each student, an adjustable drafting surface, a separate adjustable layout surface, storage for supplies and equipment, an adequate light source, and as many lineal feet of display and teaching surface as possible."

To meet these criteria, he found sympathetic collaborators in Ronald Beckman, design vice-president of George Nelson & Company, and in Robert Probst, director of the manufacturer's research division. Beckman, who recently assumed directorship of the Research & Design Institute in Providence, Rhode Island, saw three goals in designing an appropriate interior system for Lacy's school: first, that it be an expression of the changing curriculum as directed by the changing faculty; second, that it contribute a functionally meaningful experience to the students, who would actually create their own over-all architectural environment and would have an opportunity "to individualize their own spaces with personal meanings"; and third, that the system be composed of

architecturally well-conceived components. Basically, client, designers, and fabricator founded their work on the belief that the environment of a school should contribute to the learning process.

"The thing that sets the architectural student apart on the campus," Dean Lacy observes, "is that he has always had his office, his home base in his classroom building. No other student has this. The labs are places where you go to run experiments; then you go back to your dorm or the library or someplace. The architectural student has always, traditionally, lived at his desk. And it hasn't been the kind of desk that really says office.

"In every school you end up trying to design partitions that will fit in between the large drafting tables that are standard equipment," Lacy reminds us, "because every student demands a place to tack up things. They live in a visual world, and unless they are constantly reminded of yesterday's mistakes, they can't correct them—without going through a file."

The system that was evolved to fulfill all the ideal requirements of the curriculum and of the designers is a self-supporting, unfixed partition system that has its furniture components hung from it—even the drafting board is wall-hung and folds down. Half furniture and half wall, this hybrid system brings the movable furniture concept into architectural components; it also brings the architectural concept into furniture. Panels arranged in U-plan and Z-plan clusters can be slid around the room to form new arrangements. The designers call them "Skiddable Walls."

"The system permits the architect to concentrate on what is basic and simple," Beckman says, "on what is dearest to him—the enclosing of space. It removes from the architect the responsibilty of infinitely partitioning his spaces; it permits the occupant of this universal space to configure and reestablish, as demands on the space change, an infinite variety of configurations."



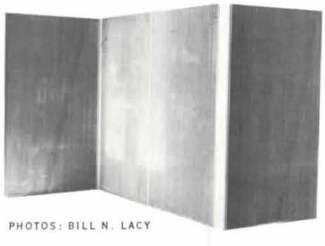












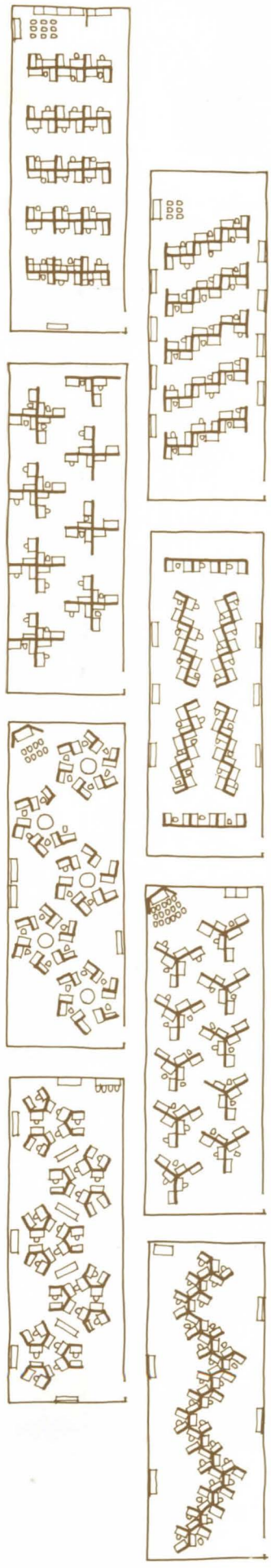
PHOTOS: BILL N. LACY

For six weeks, the partitions in Professor Grieger's class might be arranged for team work on complex problems; then, in another response to the curriculum, they might be rearranged to give each student vital privacy. At the University of Tennessee School of Architecture, these changes in partition plan can be made in an afternoon, the connected panels being simply lifted up, with the furniture still attached to them, and skidded along to their new positions in the large loft space of Estabrook Hall. A great variety of partition plans has already been worked out by the students and the designers to create different types of spaces between the partitions (*right*).

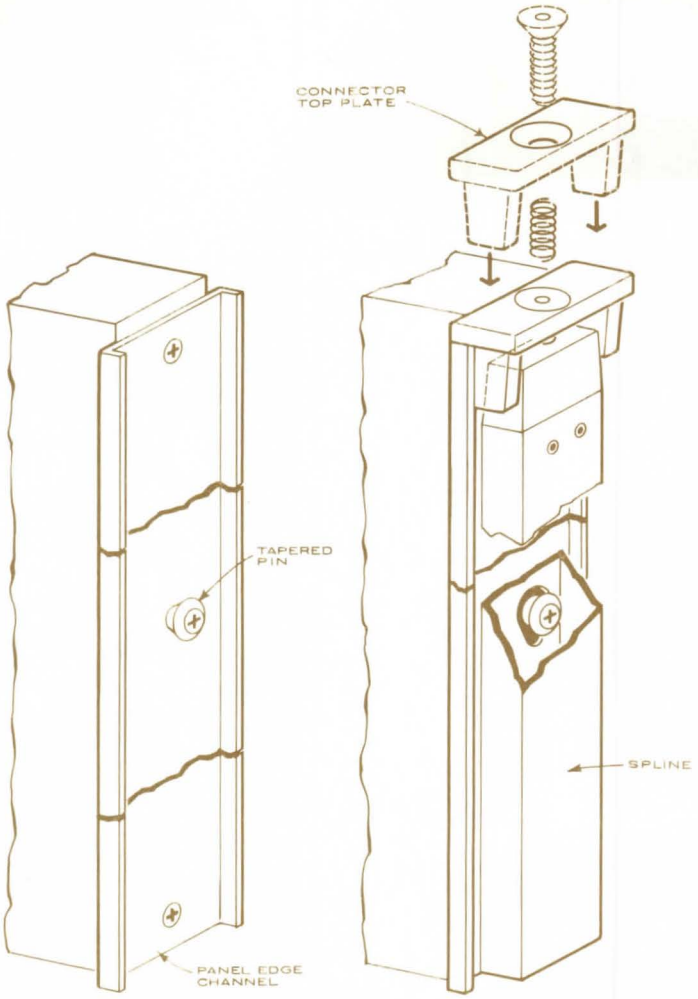
The enormous freedom the system offers to interior designers and occupants has a questionable reverse side, however. For instance, its minimal, economical character provides for no other electrical connections to the necessary Luxo lamps than cords hanging free from the ceiling track system. The resultant scramble slum of overhead wires, along with the uncontrollably "individualized" personalities of each occupant's space, generate a scene with a totally different aesthetic from that of the past decades.

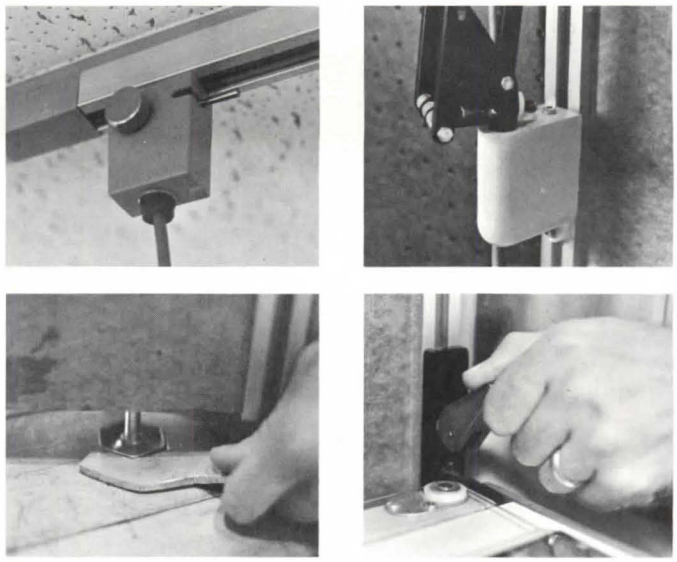
"It is a very direct solution to the problem, and, because of its directness, it both works well and creates a rich ceiling of exhibit lights and barely noticeable gray wires," Lacy comments.

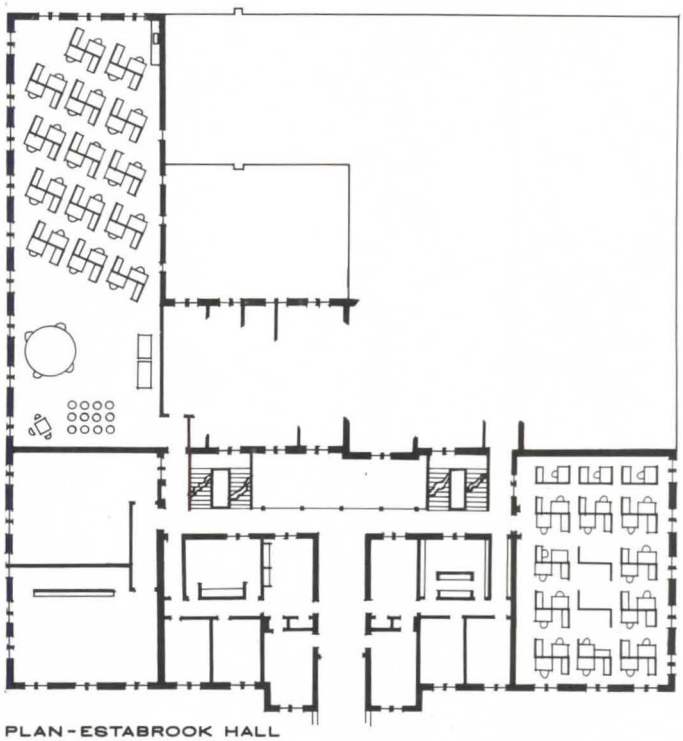
It is a style not far from the effects of the German office-planning system, *Büroland-schaft*, and, like that system, is a product of the Generative Style of a new and free-wheeling generation. —CRS



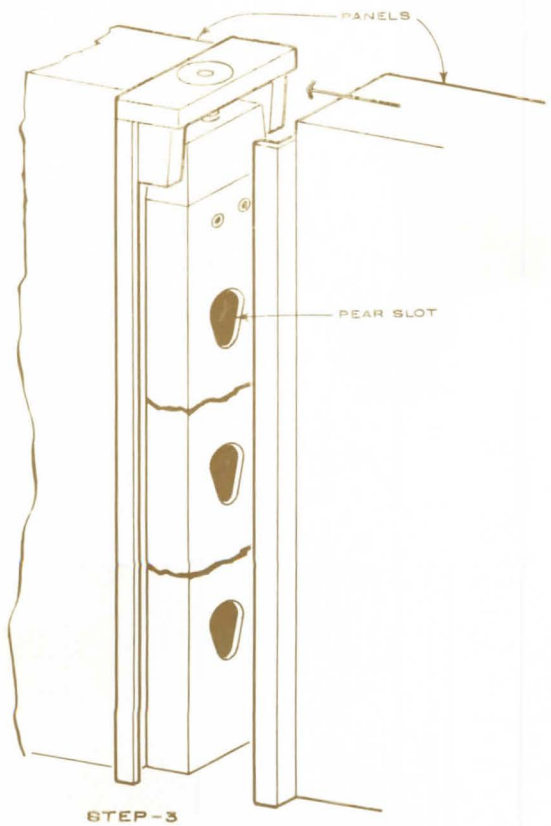








PLAN-ESTABROOK HALL



The essential element in the furniture system is the extruded aluminum connector of the panels, an invention of the Herman Miller Research Division headed by Robert Probst. Called a "fishbone connector," it is composed of a central core or spline (a rectangular tube) and two shallow, U-shaped channels (one attached to each panel) which clamp onto this core. By tightening an Allenhead screw, the core draws the two halves of the assembly together in a total bond that runs the length of the panel. The name "fishbone" comes from tapered pins projecting from the U-shaped channels, against which the core tightens. In so doing, the connector creates a track between the panels from which a wide variety of furniture components can be hung. Tabletops are legless, on sliding, fold-down brackets that cut furniture costs in half. Shelves and racks can be similarly hung at height best for each user. Since components hang off the tracks and not off the panels, the panels can be made of almost any material—chalkboard, tackboard, softwall, acoustical wall, mirrored wall, translucent wall, transparent wall, or of sample materials put on exhibition for the edification of students. A wood frame of sufficient thickness must be used around glass and other thin or nonrigid materials. Custom manufactured for experimental use at Tennessee, the patented system will be commercially available in the near future. Probst foresees a great potential for these more "kinetic, flexible, subarchitectural elements."



nited

WIGGLE WALLS

For an art-wealthy client with a discriminating collection, Architects Howard Barnstone and Eugene Aubry make a minimal expenditure with artfully spectacular results and let the paintings and sculpture carry the decorative scheme.

What most catches the eye in the New York executive offices of Schlumberger Limited is the wide wiggle of diagonal walls that partition off the clerical cubicles from the circulation corridor. What an effect!

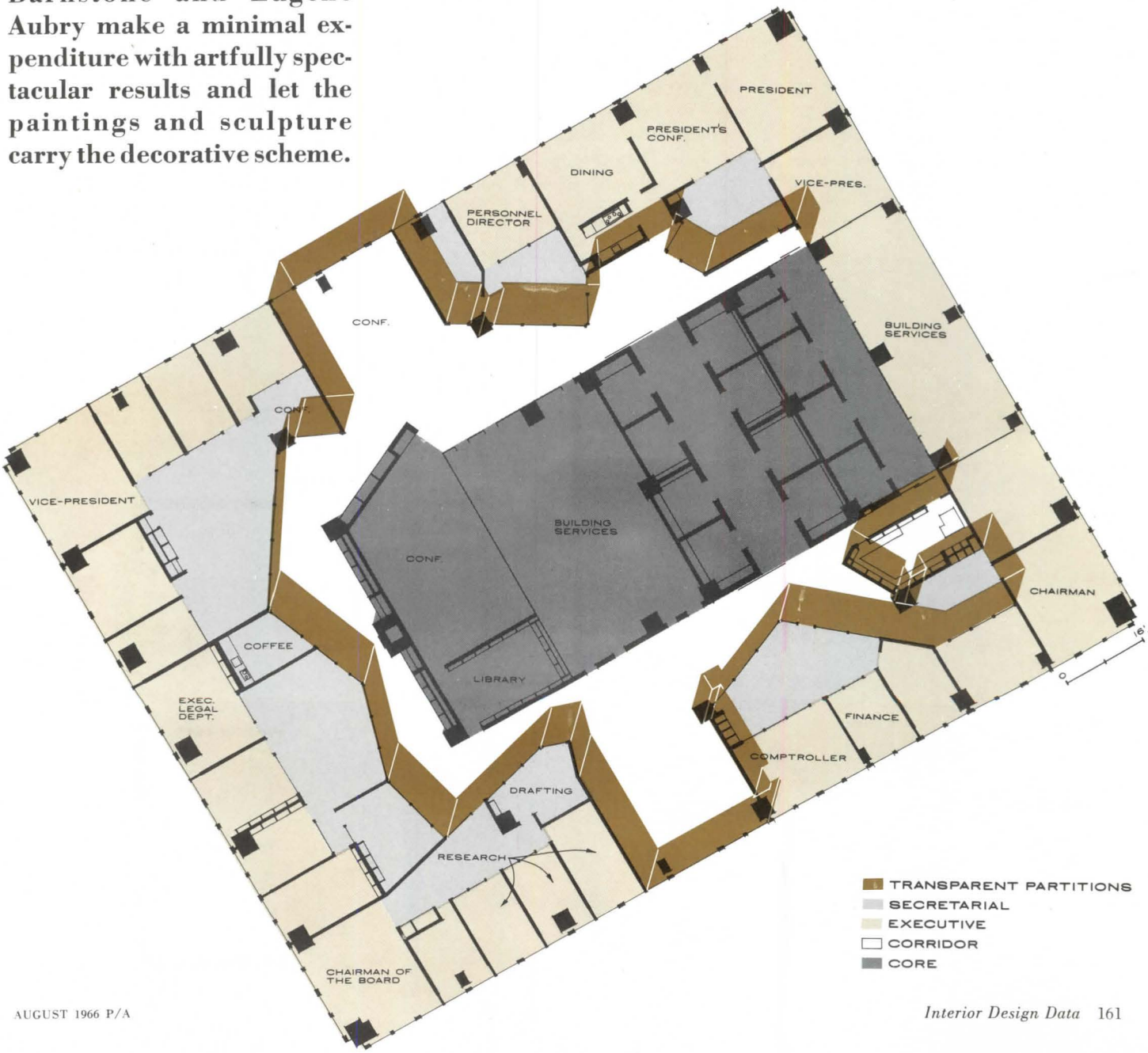
First we have the cult of the diagonal brought inside as hip ceilings (FEBRUARY 1966 P/A). Now hip walls. (Is the floor to be next?)

The twisting, frugging, wiggling walls are more than merely In, however. They, achieve, surprisingly, a leveling of spatial heirarchy—an equalization of the quality of light and spaces provided for executives and for secretarial staff.

This can best be read from the plan, which shows three concentric bands of enclosure separated by different degrees of transparency. The outer band is devoted to perimeter offices for executives (corner offices are premium in this scheme); the next inner band comprises the secretarial and clerical offices with their wiggle-wall partitions. The third concentric areas is the corridor around the core.

Dividing these bands of offices are two rows of partitions with glass panels of different transparencies: gray unpolished plate (just as it comes from the rollers) encloses the executive spaces. They have a spectacular view of Manhattan from the forty-fourth floor. Clear polished plate separates the secretarial and clerical area from the corridor, which varies in width from 6 ft to 16 ft, and broadens out to 38 ft in two areas.

The result is not only that light from the outside reaches the secretarial spaces through the translucent polished plate, as is the case, but also that the clear glass inner partitions give onto a wide and varied interior vista that is as generous in its way as the view from the executive



offices. In this plan, both groups of workers seem to face outwards from the unpolished plate partitions.

There is an openness of inner space and an openness in being able to see one's colleagues. Even the coffee room is exposed to view from the corridor, through a glass—lightly. It is a democratization of spatial hierarchy and of light.

Yet the wiggle walls, which the architects admittedly originated from a "squiggley doodle," are kinky in ways other than in plan. They also produce what the architects call "a crazy house of reflections," and this gives movement and variety to a potentially lifeless interior space. Furthermore, the angles seem to provide sufficient acoustical insulation or sound deflection for the spaces, which are doorless. In addition, the column system is camouflaged, mean corridors eliminated, and the offices look extravagantly spacious. "It's a lavish way of treating a corridor," says one critic, "like a series of grand lobbies."

However, the partitioning system itself is as modest as one could find—$6 per linear foot. Standard industrialized materials are used. Posts are of rolled structural steel angles, which are spot-welded on the site (the joints left unpolished) and painted chocolate brown. They are welded to another angle bolted to the floor and to a header angle bolted to a wood ground that is attached to the suspended ceiling system. Standard metal bucks are site-welded onto these posts, painted white (leaving an unsolved corner detail), and used without doors.

The glazing connector for this system is a neoprene gasket commonly used for exterior glazing. Derived from automobile construction (windshields are put in with neoprene gaskets, remember?) and used originally by Saarinen to eliminate calking at the General Motors Technical Center, the green-black gaskets are imaginatively put to interior use in this project.

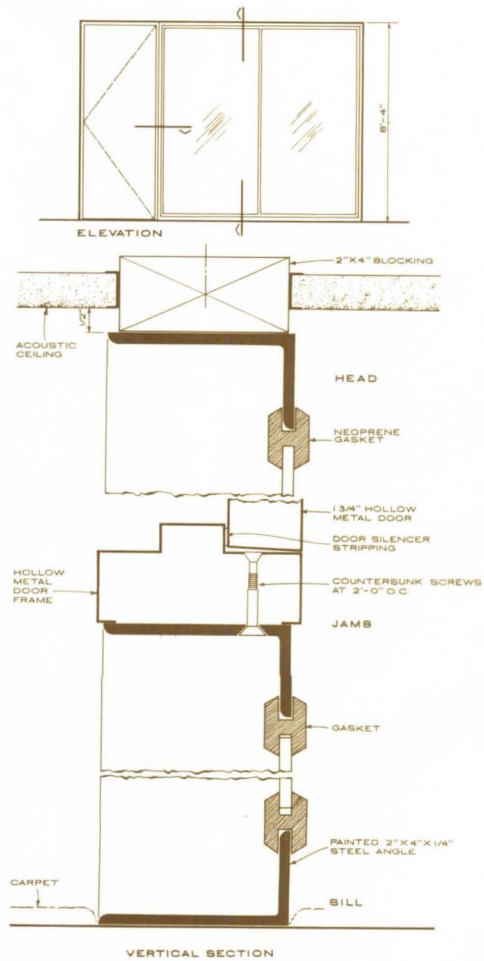
However, there is also an actual, physical wiggle in the walls where the 5 ft to 8 ft glass panels are joined with only the neoprene gasket. One can make them sway enough to make oneself wary. And, although a protective rail has been built on the inside of the partitions at a 24-in. height, chairs and tables that miss this rail can slide back and come perilously close to rocking the wiggle. A floor rail would be a desirable improvement for future installations and a minimal post between glass panels would ease the tensions of squeamish occupants, even though it might disturb the architects visually.

The over-all project shows that several problems, such as the telephone floor boxes, are left ostentatiously unresolved, and that other items, sometimes neglected, are well used as design elements—the ceiling lighting track, for example. Most important, however, the spacious labyrinth of reflective wiggle walls is making the scene cool and forcefully un-square. —CRS

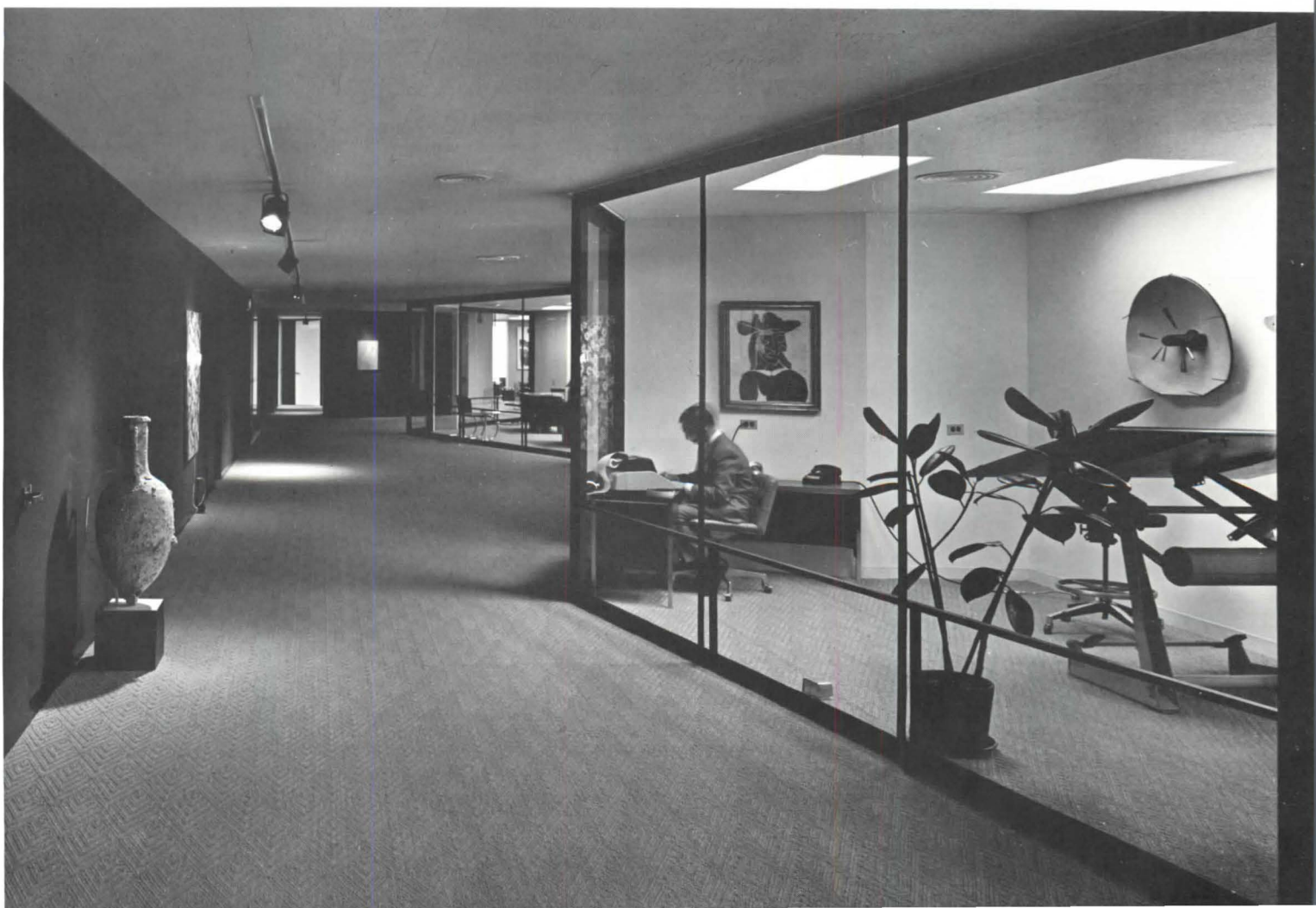


PHOTOS: BALTHAZAR



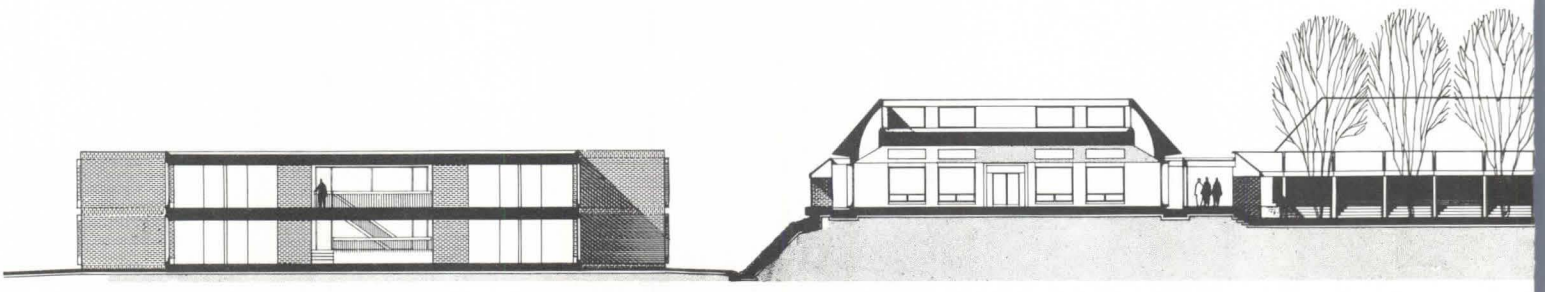






IMPROVING HOSPITAL DESIGN

ORVAL EUGENE FAUBUS INTENSIVE TREATMENT & ADMINISTRATIVE CENTER, *Little Rock, Arkansas.* ***Architects:*** *Wittenberg, Delony & Davidson, Inc., Gordon G. Wittenberg, President; Fred E. Arnold, Partner in Charge of Design; Robert B. Church, III, Project Designer; Courtney Renshaw, Job Captain.* ***Site:*** *A hilltop on the state hospital grounds, near the University of Arkansas Medical Center.* ***Program:*** *An administration building and intensive treatment center, with admitting unit, living and treatment units for approximately 400 mental patients, canteen services, staff dining facilities. Facility to put into practice two concepts developed by George W. Jackson, M.D., Superintendent: (1) patients to be housed in regional groups; and (2) patients to be cared for by the same treatment team from admission to discharge.* ***Structural System:*** *All buildings on the podium have steel-framed roofs on masonry walls; other buildings have concrete floors and roofs on masonry walls and columns. Covered walkways are of precast canopy sections and roof slabs on masonry piers and precast columns.* ***Mechanical System:*** *Complex of buildings is served by seven medium-sized (100- to 150-ton) central systems, each with an absorption water chiller, two steam boilers, and the necessary pumps, zone pumps, convectors, etc. Condenser water is piped to the refrigeration machines from a central cooling tower in a remote location. All occupied areas of buildings are air conditioned.* ***Major Materials:*** *Warm tan brick with contrasting black slate shingle roofs; white cast-stone trim; precast concrete wall panels of smooth-finished marble aggregate; terrazzite floors; brick pavers; interior walls of wood paneling and plaster; acoustical plaster ceilings.* ***Consultants:*** *Engineering Consultants, Inc., Structural Engineers; Leo L. Landauer & Associates, Inc., Mechanical.* ***Cost:*** *$5,050,842, including all landscaping and paving. $18.80 per sq ft, counting open, covered walkways at two-thirds of their area, paved and structurally supported areas at half, and all other spaces at actual area.* ***Photography:*** *Frank Lotz Miller, except as noted.*



THERAPEUTIC ENVIRONMENT OF NEW MENTAL HOSPITAL

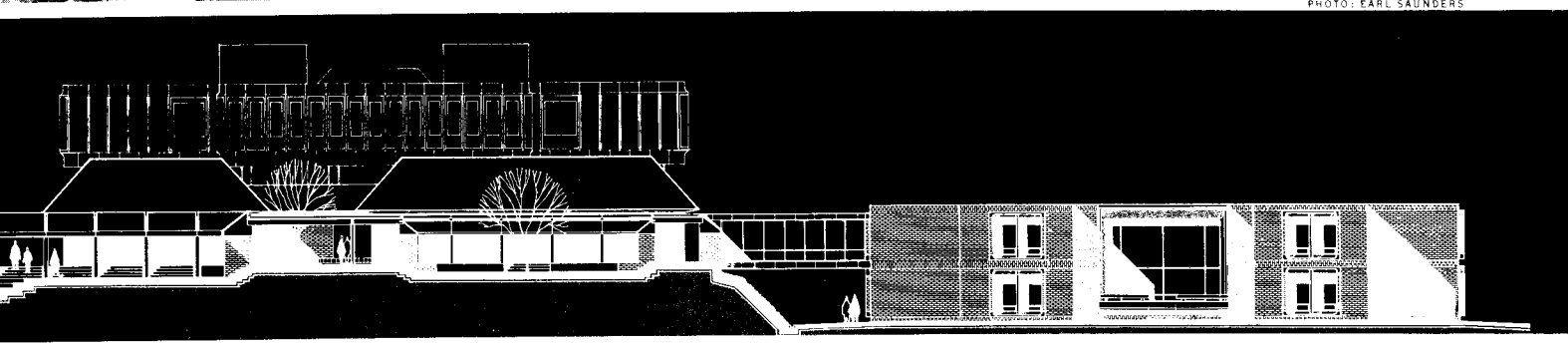
Awards are not new to this building. Voted, in 1964, "the most beautiful building of the year" by the City Beautiful Commission of Little Rock, the building was the winner of a P/A Design Awards citation in 1963. The superintendent of the hospital has given it his own award, commending the building for its "departure, architecturally and philosophically, from the typical state mental hospital." He believes it to be the first institution in the U.S. "specifically designed to house and treat patients on the regional unit system and to serve as the incubator for community health centers."

The new center grew out of the desperate need for new facilities at the Arkansas State Hospital. In 1960, half of the 12 buildings on this site were at least 60 years old, and despite efforts at renovation they were rapidly falling apart. Overcrowding was severe, with patients sleeping on the floor when there was no room for extra beds. There were usually 1775 beds, more than 400 over the rated capacity; and of these, more than 1000 were considered unacceptable by standards of the American Psychiatric Association.

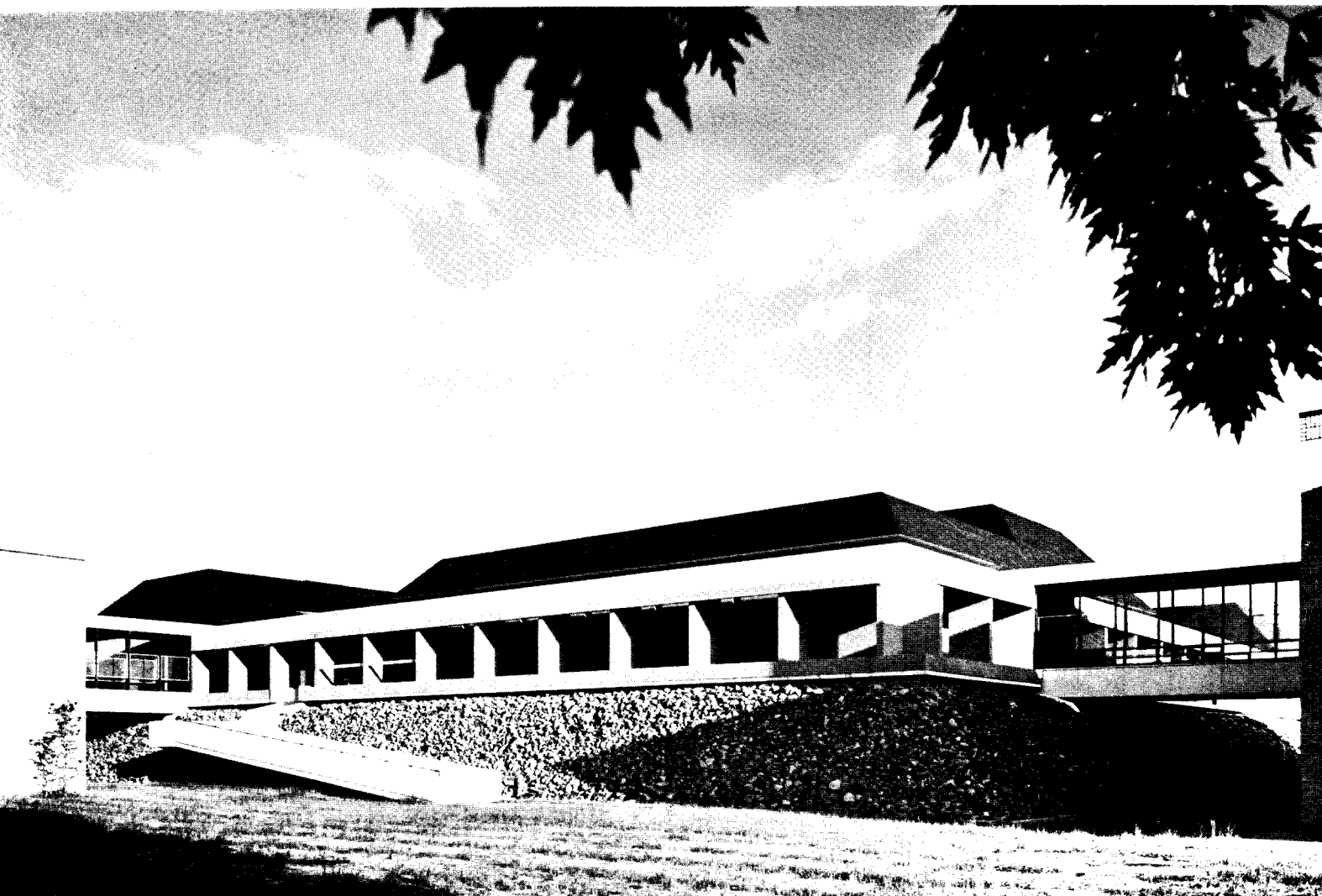
In 1960, the state hospital board proposed a comprehensive building program for the Little Rock facility, based on a development program prepared by architects Wittenberg, Delony & Davidson. During the course of their planning, the architects had maintained offices at the hospital for approximately seven months. Daily consultations with the superintendent, director of administration, staff members, and patients led to the joint formulation of specific objectives and proposals (see page 166). Writes the superintendent: "These close relationships gave the designers a much deeper understanding of the hospital's functions, goals, and problems than mere occasional collaboration could have afforded. They were able to see daily how the existing physical plant restricted use of new and more economical methods of treatment and how it prevented the development of a substantial research program. The success of the design that eventually evolved owes much, I believe, to the architects' fine comprehension of how a mental hospital should function."

Although a number of state hospitals throughout the country have reorganized

PHOTO: EARL SAUNDERS



Pairs of living units, each a regional center, are grouped around a podium and joined to it by covered walkways.



Policy objectives and design proposals, formulated jointly by the architectural design team and the hospital staff:

Objective: To program the Arkansas State Hospital in accordance with modern practices of care and treatment of mental patients.
Proposal: Provide a plan that recognizes that patient treatment is a complex process and requires the architectural identification of several different areas where different types of activity occur.

Objective: To promote operational efficiency and provide for possible expansion through a comprehensive and over-all organization of the entire hospital site.
Proposal: Establish zones that assign each available building area to a particular type of activity. The general boundaries of these zones should not be encroached upon and should be followed when choosing a site for a new building.

Objective: To insure that the separate areas of the hospital community are served by a circulation system that enables them to work together efficiently.
Proposal: Separate vehicular and pedestrian traffic within the hospital grounds as completely as possible. Provide a system of covered walkways, not crossed by vehicular traffic, which connects all the main buildings.

Objective: To achieve the redevelopment plan without interrupting full and efficient operation and with a minimum of confusion.
Proposal: Adopt a plan that can be accomplished in stages, each stage to be regarded as an inseparable part of the whole plan, each building to be constructed according to a logical schedule that insures full hospital operation at all times.

Objective: To design a physical atmosphere that provides a permissive freedom of movement among patients to the greatest extent possible.
Proposal: Include in the site layout a major open space — a common area surrounded by the buildings the patients visit. Design and orient living and treatment areas so that small open areas or courts are formed, accessible from the day rooms. Adopt principles of site design that form these spaces and also channel the patients to them, relying on buildings or natural formations for enclosure rather than on walls or fences. Remember that abrupt changes of typography can be dangerous to mental patients and that care should be taken to make all transitions smooth and easily recognized.

White cast-stone trim on windows contrasts with warm-toned tan brick.



PHOTO: OSCAR MENZER

into regional units, the Arkansas facility provided the opportunity of planning specifically for this system. Under the system, explains the superintendent, patients are admitted to the unit serving their district "regardless of their diagnosis, race, or any consideration other than their home county." A patient is treated by the same staff from admission until discharge, and is served by them again if he returns for follow-up care or is readmitted. Besides clear advantages to the patient, there is the added advantage of closer and more frequent contact between the unit staff and the professionals in the district served.

At the new facility, there are three regional treatment centers. Each has two 72-bed residence buildings, one for men and one for women, and two intensive treatment units. Men and women patients visit together in the social areas of the residences, and several of the units have mixed dining arrangements. Wards are completely open, except that outside doors are locked at night—at the request of patients, who did not like the idea of strangers wandering in at night. The hospital can accommodate 702 patients, a decrease of more than 1100 patients since 1960 (due to better treatment methods, to placing elderly patients in nursing homes, and to increased vocational rehabilitation services).

After it had been determined that there would be six 72-bed living units, Gordon Wittenberg writes, "We used questionnaires and interviews with the hospital staff to help us estimate the space requirements for administrative and service personnel. For example, department heads and their personnel were given a questionnaire about their patterns of communication and circulation. These data helped the design team to determine where extra personnel, and thus extra space, would be needed in the new hospital, and how departments should best be located within the buildings. The information from staff, added to recommendations published by the U.S. Public Health Service and the American Psychiatric Association and a survey of the plans of other modern mental hospitals, enabled us to calculate the net space needs for each functioning unit of the hospital complex."

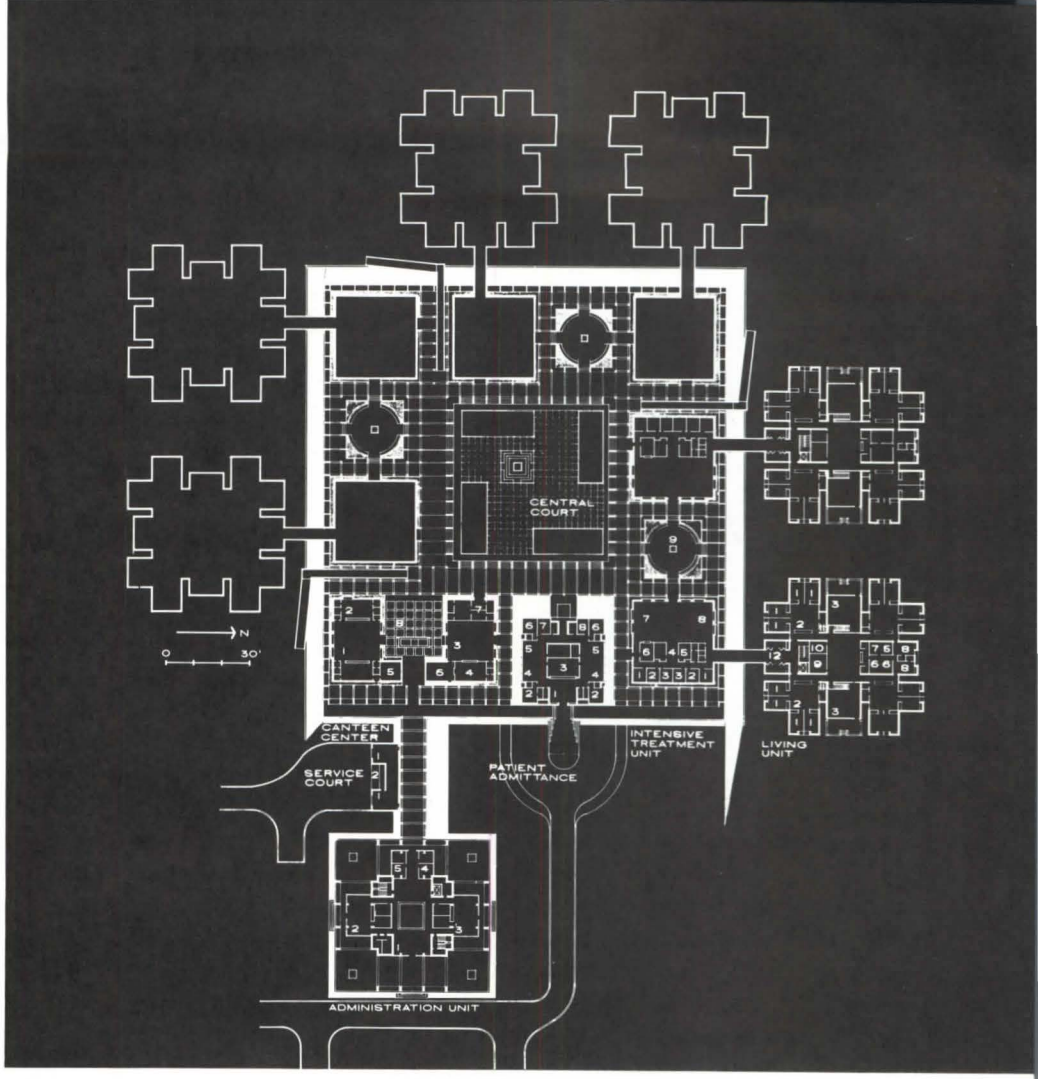
Wittenberg describes the over-all design: "The many building elements are organized into a coherent arrangement by the device of a podium, an elevated square base bearing the structures and spaces that serve the adjacent living units." The

podium is approximately 11½ ft above the ground floor of the living units.

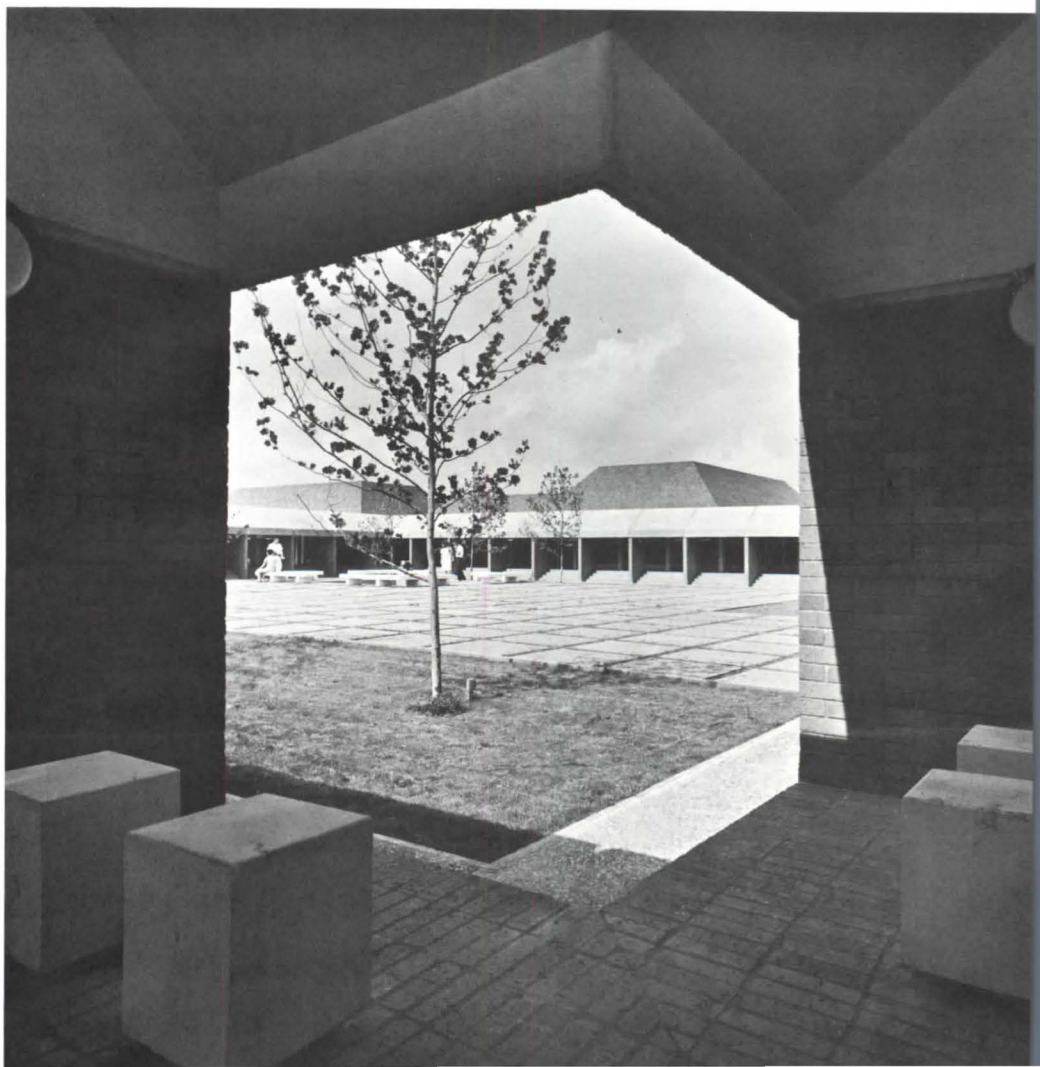
"One of the most striking features of the entire facility" says the architect, "is the abundance of light and openness. This effect was created wherever possible to eliminate any semblance of confinement. There are no dead ends; every corridor ends with a window. The rooms and corridors have skylights that let sunlight into every corner. Even the covered walkways in the courtyards are designed so that a foot of open space separates the sloping and flat parts of the precast roofs.

"Since the new facility covers a large expanse, we took pains to avoid spatial ambiguities that might add to the patients' sense of confusion. We carefully proportioned such features as the roof lines, canopy covers, and recessed areas in the courtyards to an identifiable domestic scale. We were able to achieve the sense of openness without creating an unfamiliar, large-scale setting in which patients might feel lost or dwarfed."

This kind of thinking goes a long way toward creating an environment in which mental patients can live, and can learn to put their world back together again so as to reenter the larger world.



At the center of the podium is a huge courtyard where patients gather.



Administration Unit: *(1) Lobby and Waiting; (2) Information Center; (3) Personnel; (4) Information; (5) Personnel.* ***Canteen Center:*** *(1) Patients' Café; (2) Clothing; (3) Staff Dining; (4) Kitchen Service; (5) Mailroom; (6) Private Dining; (7) Dental Clinic.* ***Patient Admittance:*** *(1) Waiting; (2) Private Waiting; (3) Receptionist and Secretary; (4) Admittance Clerk; (5) Social Worker; (6) Doctor; (7) Lab, X-ray, Photos; (8) O.D. Suite.* ***Intensive Treatment Unit:*** *(1) Psychiatrist; (2) Psychologist; (3) Social Worker; (4) Secretary and Waiting; (5) Conference; (6) Food Service Counter; (7) Dining Area; (8) Main Social Area; (9) Conversation Court.* ***Living Unit:*** *(Two Floors, 36 Beds Each) (1) Double Bedroom; (2) O.T. and Restricted Social Activity; (3) Mixed Social Activity; (4) Nurse Station; (5) Examination and Treatment; (6) Office; (7) Medicine Preparation; (8) Isolation; (9) Bath; (10) Self-Service Laundry; (11) Linens; (12) Visitors.* ***Central Court:*** *Group Meetings, Concerts, Exhibitions, etc.* ***Service Court:*** *(1) Food and Linen Service; (2) Trash Removal.*



PHOTO: OSCAR MENZER

Between the intensive treatment units on the podium are small sheltered courtyards (above); the large central courtyard is uncovered (below).







Structure of the complex varies with the type of building, but, to avoid additional cost, standard procedures have been employed throughout. All buildings on the podium have steel-framed roofs on masonry walls: others have concrete floors and roofs on masonry walls. Materials were chosen to convey warmth, and "to avoid any suggestion of a coldly clinical atmosphere." Expanses of grass and plantings add color to the courtyards: other landscaping effects include native fieldstone riprap surrounding the podium. Color, both internal and external, was intended to act as a psychological stimulant: There are warm colors throughout, with various interior accent colors. To create for patients a living-treatment unit that is to some extent individualized, each unit has its own color scheme, expressed on doors and plaster panels, and carried out in upholstery.



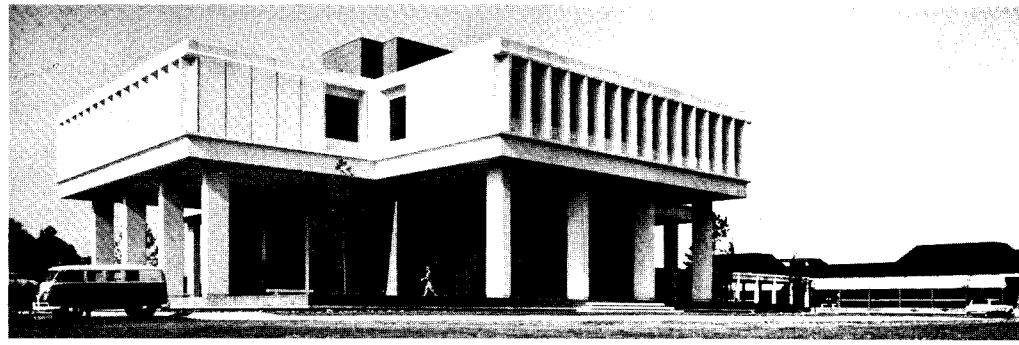


PHOTO: EARL SAUNDERS

Social area of an activity center (top): administration building (center and bottom).



IN-USE EVALUATION OF PSYCHIATRIC FACILITY

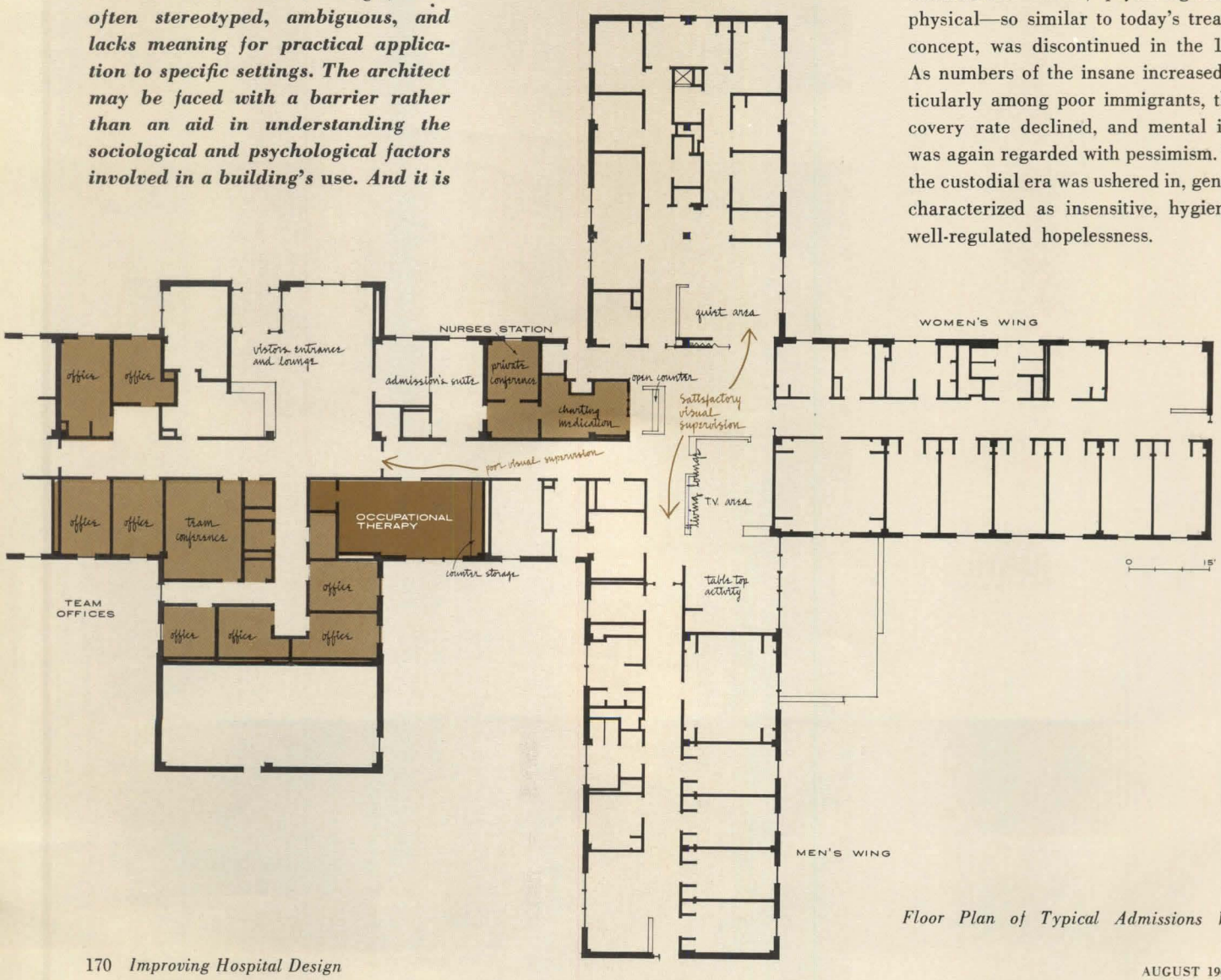
By Lawrence Good and Edith Zeller

The effect of architectural environment on man is the focus of study by several research groups of which the Environmental Research Foundation of Topeka, Kansas, is an outstanding example. The foundation hopes to establish a methodology, where none exists now, for evaluating man's response to architectural environment, as well as form a more reliable body of knowledge in this area.

This group finds that when behavioral terminology is used in relation to environmental design, it is often stereotyped, ambiguous, and lacks meaning for practical application to specific settings. The architect may be faced with a barrier rather than an aid in understanding the sociological and psychological factors involved in a building's use. And it is the building's actual use which, the Environmental Research Foundation contends, should be the focus for research by the architect and social scientist. Use is to be considered in terms of life situations that will occur there: How does the building inhibit or help these life functions?

In this article, Lawrence Good, architect and director of the Environmental Research Foundation, and Edith Zeller, anthropologist with the foundation, present preliminary observations on the "uses" of a new mental hospital unit at Topeka State Hospital, designed with modern therapy goals in mind. Although their research is not conclusive, they have established a framework of hypotheses within which they attempt to appraise the unit. For example, they wish to determine the degree to which architecture induces patient and staff circulation and visual contact, and thus social contact and group formation — an important aspect of mental therapy. Another objective is to establish the ease or difficulty patients and staff have in identifying the component parts of the hospital according to function (thus reducing or heightening feelings of ambiguity and anxiety), and, in turn, how functions are perceived as appropriate to the architectural parts. Preliminary research hints at the answers, yet it also raises many questions that will require further study.

The basic principles underlying present-day care and treatment of the mentally ill were first formulated more than 150 years ago, during the era of "moral treatment," 1789–1865. The philosophy of this treatment was based on the belief in the perfectibility of man, one of the keynotes of the Age of Enlightenment. The mentally ill were treated with sympathy and respect, and housed in hospitals of cheerful and comfortable appearance. This practice of creating a complete therapeutic environment—social, psychological, and physical—so similar to today's treatment concept, was discontinued in the 1860's. As numbers of the insane increased, particularly among poor immigrants, the recovery rate declined, and mental illness was again regarded with pessimism. Thus, the custodial era was ushered in, generally characterized as insensitive, hygienic—a well-regulated hopelessness.



Floor Plan of Typical Admissions Ward.

Contemporary emphasis on "milieu therapy" emerged after World War II, when exposés of appallingly bad conditions in mental hospitals spurred reform movements. This therapy is based on the belief that it is a series of small, accumulating events that bring a patient to the hospital, and thus he can be returned to health as a result of personal contacts, events, and environmental stimulii impinging on his life while in the hospital. We believe that architecture can play a vital role here as one facet of the hospital's total treatment program, by creating for the patient an environment that is ego-strengthening and that permits him opportunities to direct his thoughts, feelings, and consequently his behavior into socially acceptable channels. Architectural designs must be formulated and solutions sought that keep hospital goals and the complex system of sociological and psychological variables in mind. In addition, operating architectural facilities must constantly be appraised in terms of the actual behavioral patterns and attitudes they invoke.

A storage-bin concept of housing the mentally ill characterized the custodial era.



PHOTOS, EXCEPT AS NOTED: LAWRENCE GOOD

The new patient treatment units at Topeka State Hospital afford us an excellent opportunity for studying the architectural environment and its effect on human behavior. The units are one-story buildings arranged in a campus plan around a central administrative building, forming a complex known as Woodsview. The patient treatment units house a total of 230 patients, and also provide administrative services on a localized (thus more personalized) level (*plan*). Three architectural features of each of these units—a nursing station, occupational therapy room, and staff offices—were designed to improve on older facilities with certain therapeutic goals in mind: (1) To foster closer patient-staff relations, a section of the nursing station was opened more directly to the ward; (2) to individualize patient needs and treatments, occupational therapy facilities were provided on the ward in addition to those in the main occupation therapy buildings; and (3) in order to promote closer and more productive relations among members of a psychiatric treatment team, the different disciplines involved on the team were housed together adjacent to the wards they served rather than separately, by individual disciplines in a central administrative building.

Our investigations of the effectiveness of the Woodsview plan are based on observations of behavior in the treatment units, interviews with patients and staff, verbatim records of administrative staff, section, and treatment team meetings, attendance at therapeutic sessions and treatment training programs, patient ward government meetings, patient social events, and staff functions. The object of this investigation is to lay groundwork for interdisciplinary research on ways of personalizing treatment procedures.

The Nursing Station: A Complex But Flexible Design

Whereas the custodial period emphasized well-regulated orderliness, with little effort made to engage the patient in any kind of active encounter with the staff, contemporary treatment philosophy stresses patient-staff contacts which should lead to therapeutically more meaningful relationships and a better understanding of the patient. However, the staff requires some areas for more private chart keeping, record-making and consultation—and relief from constant contact with patients. In order to meet some of these multiple needs, the nursing station was architecturally subdivided into three distinct areas: an area for completely private conferences (both inter-staff and patient-staff); an area for record keeping, charting, and preparation of medications; and finally, an open counter to distribute mail, medication, call patients, as well as to increase interpersonal contacts betwen patients and staff.

Does It Work?

Preliminary investigation of the nursing station indicates a number of deviations in use from the original intent. In reality, nursing functions extend beyond the nursing station proper to include two additional rooms. Since these functions in part as a primary path of access to the nursing station proper from the lobby, they have become incorporated into the main body of the nursing station and with it form a self-contained unit. As designed, the primary purpose of these two rooms was as an admissions suite for interviews and examinations, yet formal private conferences between doctor and patient seem to occur here rather than the private area of the nursing station. Instead, the private

Shown in aerial view of Topeka State Hospital: Stone Section (upper center), built in custodial era; Eastman Section (upper right), new treatment section with centralized staff officers; Woodsview Section (lower center), the newest unit with decentralized staff offices.



AERIAL VIEW: MAJOR DONALD O'TOOLE

room acts as a storage space, as the office of the unit nurse, or as a study area for students training on the ward. Investigation also shows that the counter area rarely receives sustained use, and staff members admit that they view the nursing station as a kind of sanctuary and the counter as a barricade for keeping patients at bay. Staff fears—in part the basis of custodial regimentation—are still present, especially in an admission ward, where patients are unpredictable, unknown quantities, and the staff thus gravitates to more protected areas of the nursing station.

After more intensive and detailed interdisciplinary research in nursing station facilities we hope eventually to answer the following questions: Are patient-staff interactions in the newer treatment units more frequent than in older units? Which facilities foster a greater variety of therapeutically meaningful interactions? Is tension and discomfort for the staff minimized by the variety of spaces available in the newer nursing station? To what extent are staff attitudes and behavior toward the nursing station a reflection of their own varying psychological orientation? And, finally, how do these considerations relate to the changes in architectural design?

The Occupational Therapy Room: A Simple Activity Area

Just as the custodial era failed to foster therapeutic contacts between patients and staff, so, too, it failed to provide the patient with any real outlet for his creative energies. Custodialism fostered a passive attitude, and the patient often passed large portions of his time sleeping or staring idly into space. Contemporary therapy, reminiscent of some of the practices of the moral treatment era, seeks to involve the patient in planned and informal activity programs. For example, the living lounge has a space for maximum social activity, an adjacent area for playing games and socializing, and a third area for quieter activities such as reading and letter writing. On admission wards, separate rooms have been set aside for physical recreational activities and occupational therapy activities for those patients unable to go to the main occupational therapy building. The room itself was specially equipped with storage cabinets, sinks, and shelving.

The Unforeseen Results

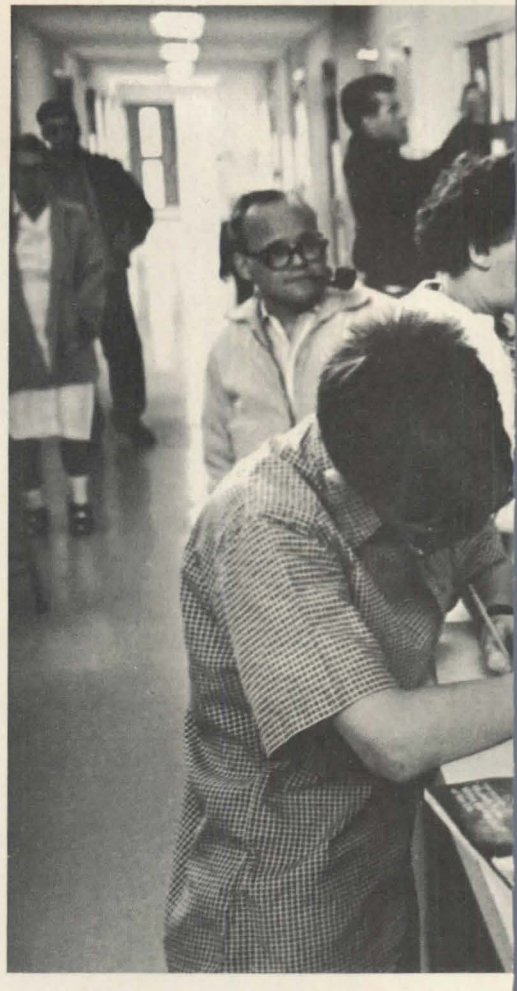
Because of its position in relation to the viewing area of the nursing station, observation of this room becomes impossible unless sufficient ward personnel is available to supervise it, and the paucity in staff numbers has drastically limited its use for such occupational therapy activities or any other unsupervised activity. This, in turn, generates resentment in patients toward what they feel is the staff's lack of trust in them, and criticism often focusses on staff's failure to individualize the rules and regulations for use of this room. The staff itself uses this room for a variety of meetings.

Our observations suggest, therefore, that since the room rarely received use according to the original plan, it is frequently caught between incompatible principles: staff needs for visual observation, respect for patient privacy, and fostering mutual trust between staff and patients. Thus, one can see that the closed room may create more problems than it solves. A better solution might be to put the room completely off the ward, or to set aside an area of the living lounge for occupational therapy activities. The area should be situated where it can receive unlimited use by patients (while still under staff surveillance) thus providing an opportunity for spontaneous expression rather than occupational therapy on command, which is more in keeping with our goal of actively engaging a patient's interest in his own treatment.

More information is needed to answer the following questions: How frequently do therapeutic activities actually occur in the occupational therapy room as well as elsewhere on the ward? What are the attitudes, both positive and negative, on the part of patients and staff about the occupational therapy room as it presently exists? Do alternative uses tend to diminish or confuse the room's association with the desired occupational therapy activities? And, finally, what design considerations are necessary in providing therapeutically useful facilities of this nature on the wards?

Staff Offices: An Interdisciplinary Cluster

Another feature of the modern treatment era is the decentralization of the vast and unwieldy psychiatric facilities of the custodial period to promote more individualized and personalized psychiatric care.



The open counter of the nursing station provides an opportunity for patient-staff interaction.

The record-keeping medication-preparing area enables the staff to confer privately among themselves, yet still keep an eye on the patients. ➔

An outgrowth of this movement is the interdisciplinary treatment team, consisting of at least two psychiatrists, a psychologist, a social worker, a chaplain, an adjunctive (occupational - recreational - music) therapist, a nurse, and a complement of aides. At Topeka State Hospital, such a team serves approximately 35–40 patients, with two teams sharing the services of the social worker, psychologist, chaplain, and adjunctive therapist. The officers of each of these treatment teams are grouped together adjacent to the wards they serve. Usually, all members of one profession share an office, but it is





thought that housing the profession on an interdisciplinary basis, in semiautonomous, campus-like buildings would foster closer and more productive relations within the team and with the patients.

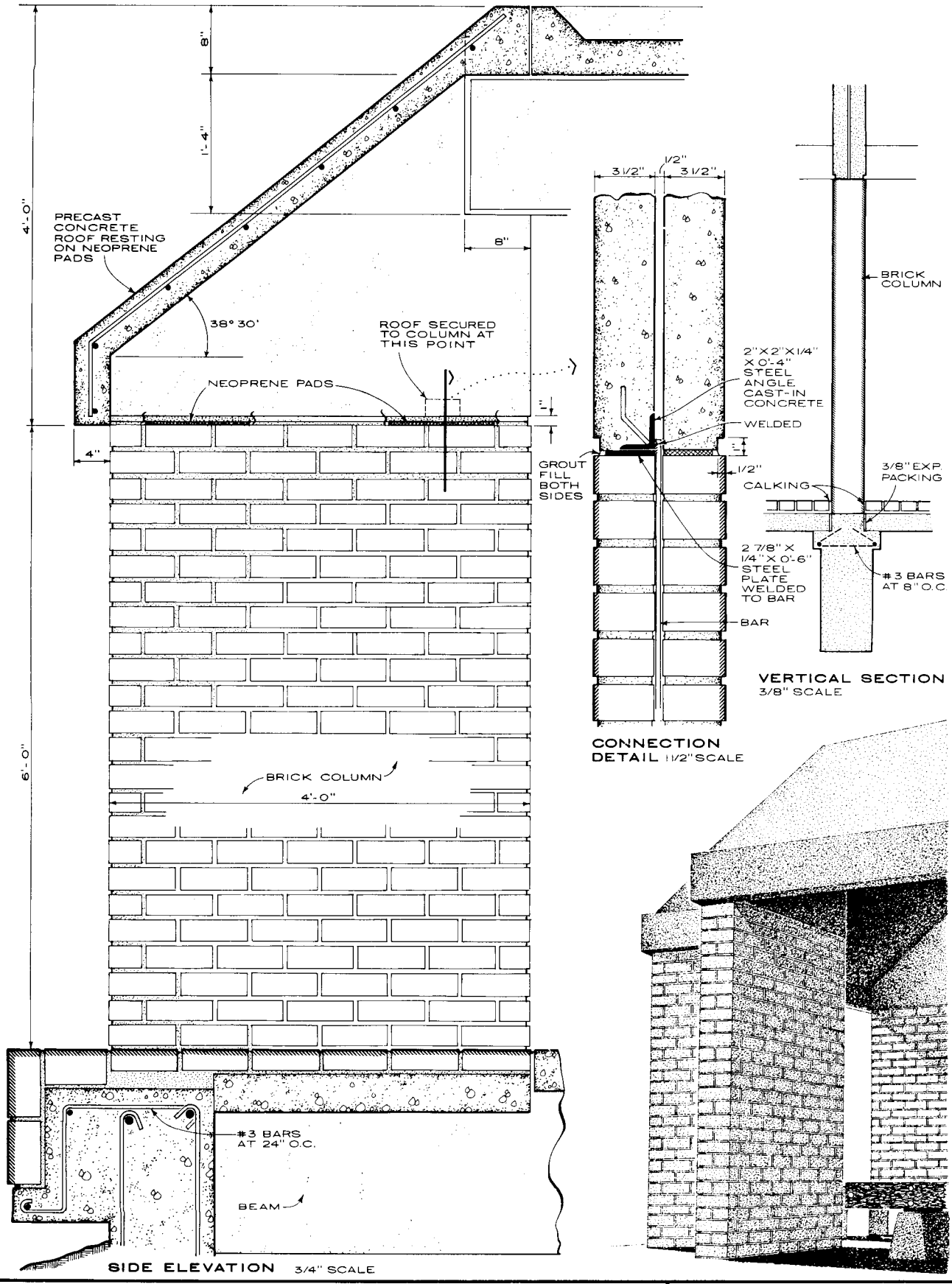
Does This Happen?

However, preliminary observations show that because secretarial help, medical charts, and records are still kept in the section's central administration building, this central facility is still a primary place for transacting business. (Also, the section's administration building is the place where coffee is available, mail boxes are housed, and where one can contact members of one's own discipline—still one of the strongest associative ties—as well as members of one's own and other teams.)

It is hoped that more intensive research will enable us to give still firmer answers to the following questions: Does architectural expression of the team concept tend to increase interactions among staff members of an individual treatment team as compared with the older facilities? What influence does the treatment unit team idea have on staff and patients? Do other problems in the everyday use of separated buildings tend to obscure the potential benefits of this type of articulation? And, finally, what kinds of design considerations are important in promoting more valuable team attitudes and interactions?

Conclusion

In a hospital unit, certain factors affect the success of architectural design from the outset, such as available operating funds, available trained staff, administrative and social structure, definition of treatment practices, dynamics of interpersonal relations, and attitudes of patients and staff toward mental illness and the mentally ill. In the examples given on new architectural components of the hospital units in the Woodsview section, it is apparent that treatment philosophy and architectural design run ahead of feelings, attitudes, and behavior patterns. In order to formulate new design solutions for living situations, a full knowledge of the complex psychosocial variables involved in a building's use must be available. Thus the need for interdisciplinary research; appraisal and reappraisal of a building's use must continually be made, hypotheses tested, more research conducted. It cannot be done by the social scientist alone, nor by the architect alone.

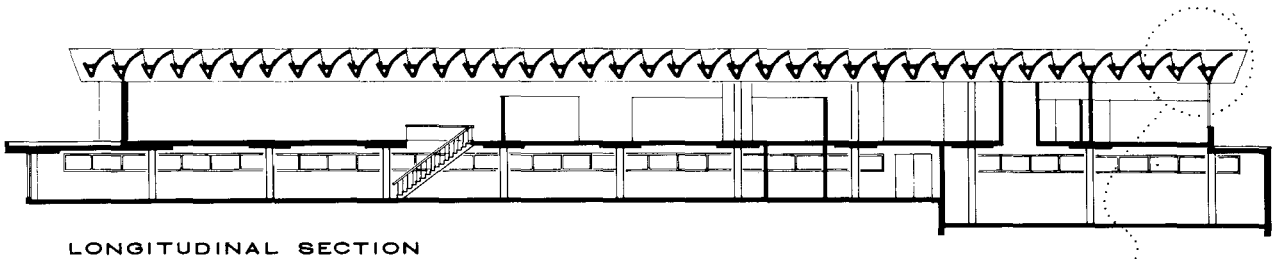


THE ORVAL EUGENE FAUBUS INTENSIVE TREATMENT *AND* ADMINISTRATIVE CENTER: Little Rock, Arkansas

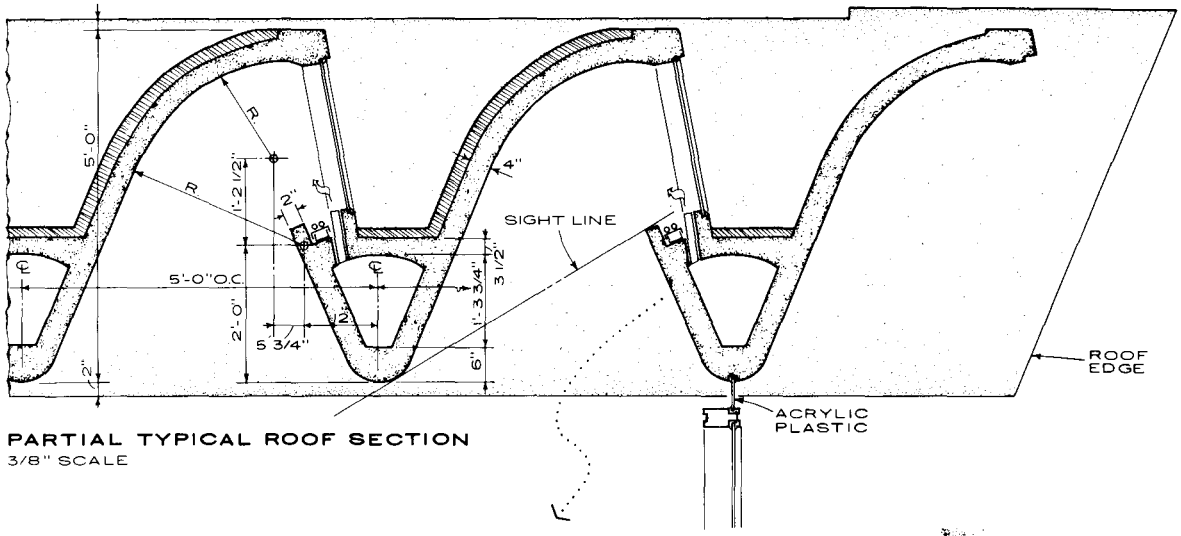
WITTENBERG DELONY & DAVIDSON, INC.: Architects

SELECTED DETAIL

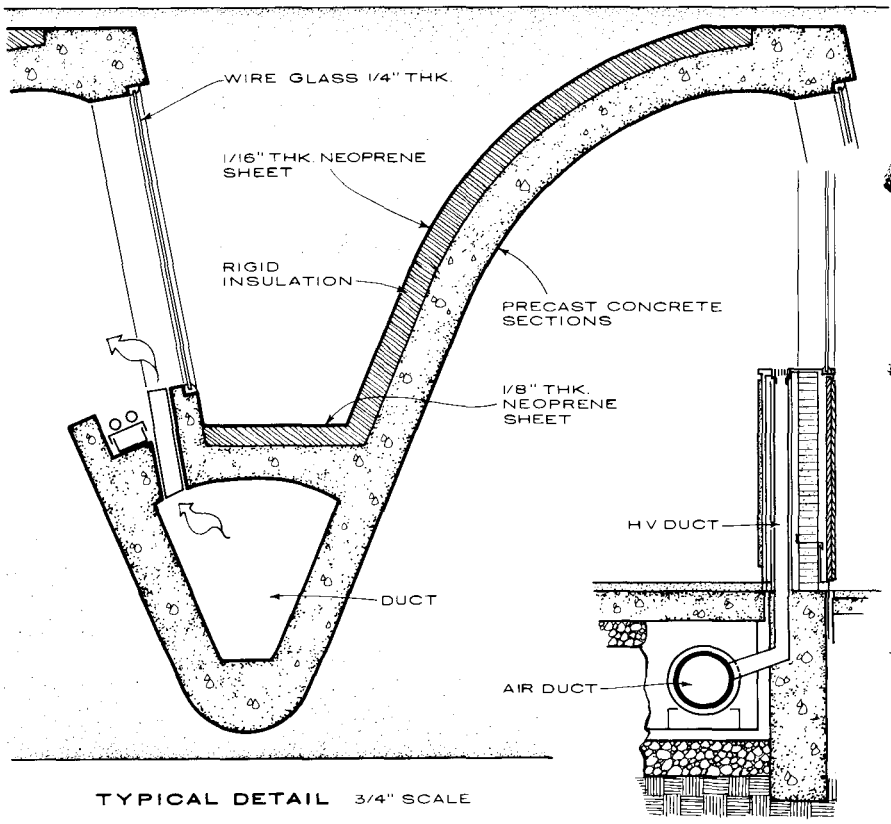
BRICK COLUMN



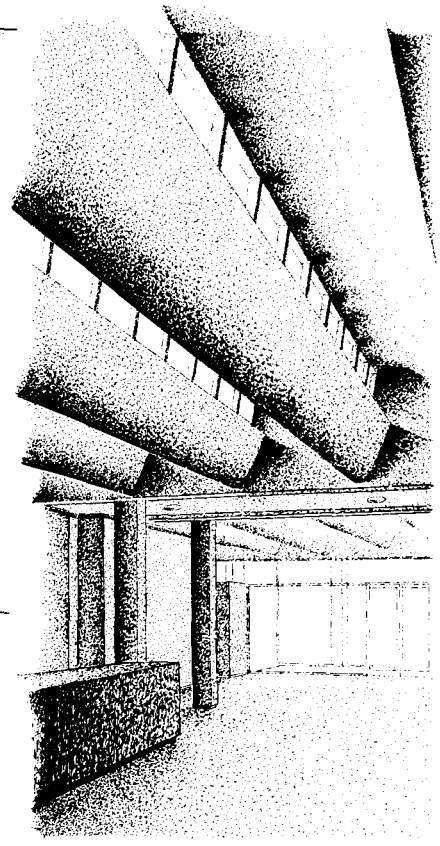
LONGITUDINAL SECTION



PARTIAL TYPICAL ROOF SECTION
3/8" SCALE



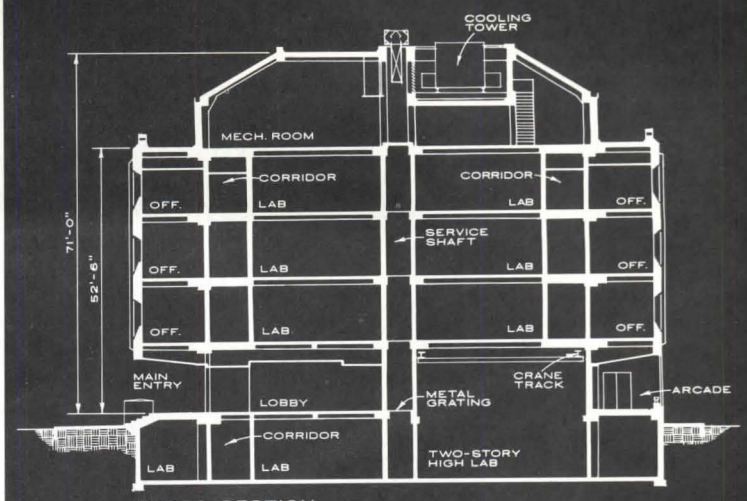
TYPICAL DETAIL 3/4" SCALE



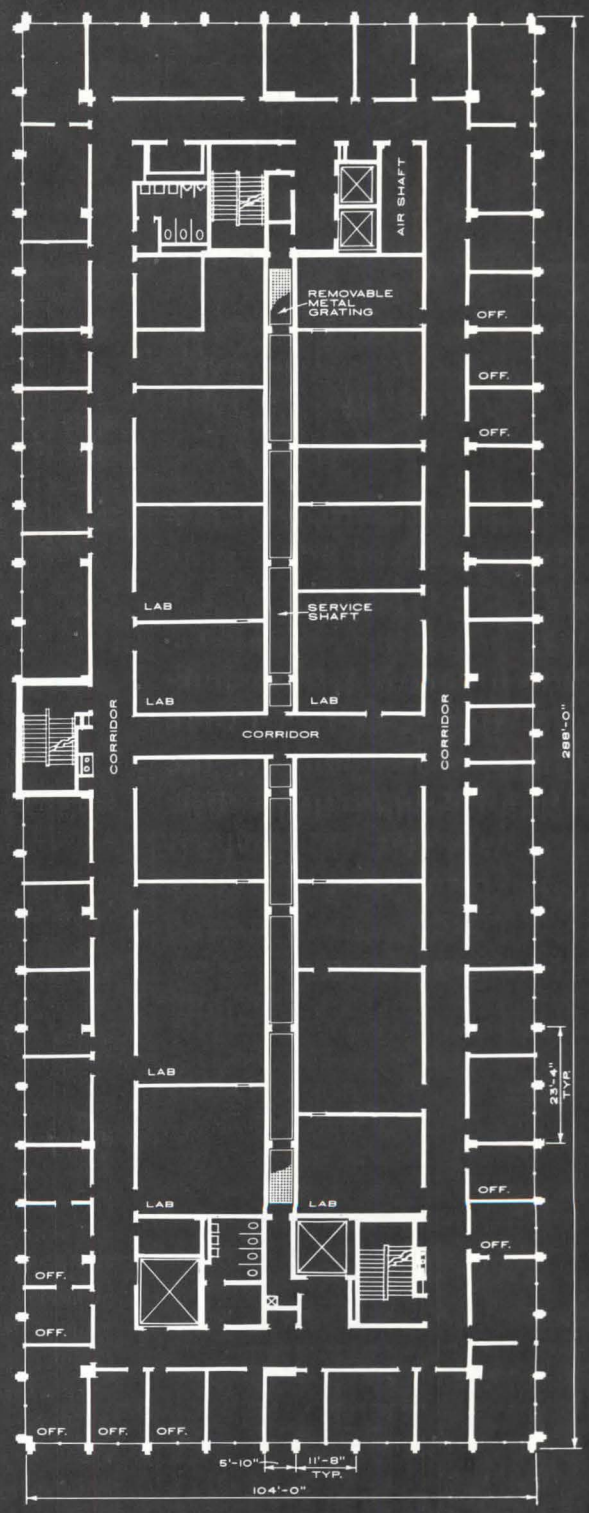
LIBRARY INSTITUTE FOR ADVANCED STUDY: Princeton, N. J.
HARRISON & ABRAMOVITZ: Architects
MEYER, STRONG & JONES: Mechanical and Electrical Engineers

SELECTED DETAIL
ROOF





CROSS SECTION



THIRD FLOOR PLAN

LABS PREPARED FOR CHANGING SCIENCES

A central shaft containing ducts and services for laboratories will enable the rooms to be easily converted for different types of scientific work.

Pipes and ducts can play havoc with the best laid plans of science buildings, even when the nature of the laboratory spaces can be precisely defined. An architect working on a Philadelphia building, however, had the extra burden of providing services for labs that in the future may be converted for any type of scientific or engineering research work. This would necessitate adding or changing exhaust systems and innumerable supply pipes to the rooms.

To accommodate these flexible lab spaces, the architect, Vincent G. Kling & Associates, Philadelphia, called for a long vertical shaft along the center of the four-story building, and backed the labs against each side of the shaft.

Vertical ducts and pipes rise inside the 4-ft-wide shaft, and then pass through the walls to the labs. At each story level, steel grating floors inside the shaft provide access for men working on the services.

The need for flexibility arises not through uncertainty of the owner, but because of the nature of the work performed there. The Franklin Institute Laboratories for Research and Development provide scientific services on contract to industry and Government agencies. Hence, the Institute may work on a variety of projects simultaneously, including chemistry, hydraulics, or explosive testing.

←Photo facing page: Central shaft extending through center of building houses vent ducts and services for multistory laboratories.

Although the Institute's space requirements were flexible, its budget was not. Kling's office pared down construction costs until it achieved a $25.35 per sq ft figure for the four-story building, mechanical penthouse, basement, and a tunnel connecting the new building with an existing building across the street.

For this comparatively low cost, the architect designed a limestone-faced building that fits agreeably in a neighborhood of classical Greek institutional buildings, a contemporary structure with hexagonal windows, and renovated town houses.

The limestone of the façade is a cheap grade of stone that enabled the owner to save money, and helped to match the building with the Institute's weathered classical-style museum across the street. At ground level, where the wall stands back under a protective overhang, designers substituted stucco panels that closely match the limestone.

The 15-ft-wide overhang of the three upper stories helps to prevent the rear of the building from suffocating the town houses that face the building across a very narrow street. The cantilevered superstructure contains offices around the perimeter of the building. Some of these offices are used as laboratories, other are occupied by researchers working with slide rules.

An 8-ft wide corridor separates the rooms on the outside walls from the labs hugging the service shaft. In this corridor, the designers incorporate many cost-reducing devices. The walls are not plastered; concrete blocks are painted. No suspended ceiling is installed except in reception areas; the ceiling and tops of the side walls are painted black. Air-conditioning ducts and all other services are painted black to blend into the corridor ceiling.

Heating and air-conditioning distribution is simple. Main ducts under the corridor ceiling feed side ducts that discharge air into the labs and offices on each side of the corridors. Return air passes from the rooms back to the corridor through louvered panels in the doors. Extract fans at the ends of each corridor pull the used air out of the corridor spaces.

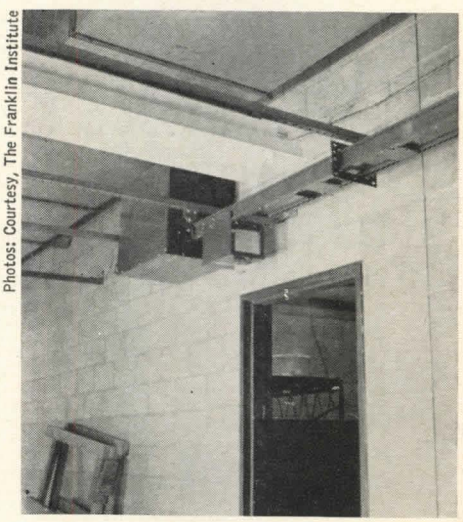
The corridors also contain electrical distribution for laboratories. An exposed bus duct attached to the wall just above door height enables electricians to tap off power for any room. A switch box on the duct provides total power cut-off for each room in an emergency. The cables from these boxes enter a distribution panel inside each lab so that individual circuits can be switched on or off.

Another safety device is built into the labs. A knockout wall panel connects pairs of labs so that workers can exit if the door to the corridor is impassable. With no plaster to inhibit tampering, holes can be knocked through the block walls to allow pipes through from the service shaft. Again, low-cost flexibility that will enable labs to be changed around easily.

Low-cost limestone blends with older neighbors of The Franklin Institute of Research.



Photos: Courtesy, The Franklin Institute



Bus duct permits flexible power circuits for labs adapted for changing programs.

SUNHOODS REDUCE COOLING LOADS

Scientifically designed sunhoods shade buildings without cluttering the façade.

By Milton Meckler, P.E., of Silver, Meckler & Associates, Los Angeles consulting engineers.

Although exterior sunshades cool the interior of a building, they often raise the ire of architects who object to overly large horizontal or vertical appendages on a building's façade. However, solar heat can be avoided by more subtle devices called sunhoods, which, unlike sunshades, do not project unnecessarily far from exterior walls.

The recently completed IBM Building in Portland, Oregon (Fig. 1), incorporates sunhoods in a loadbearing exterior wall built a few feet in front of a story-high glass curtain wall in each of the three stories.

A sunhood is a scientifically designed shading device that derives its shape from the natural requirements of the building. Thus the geographic location

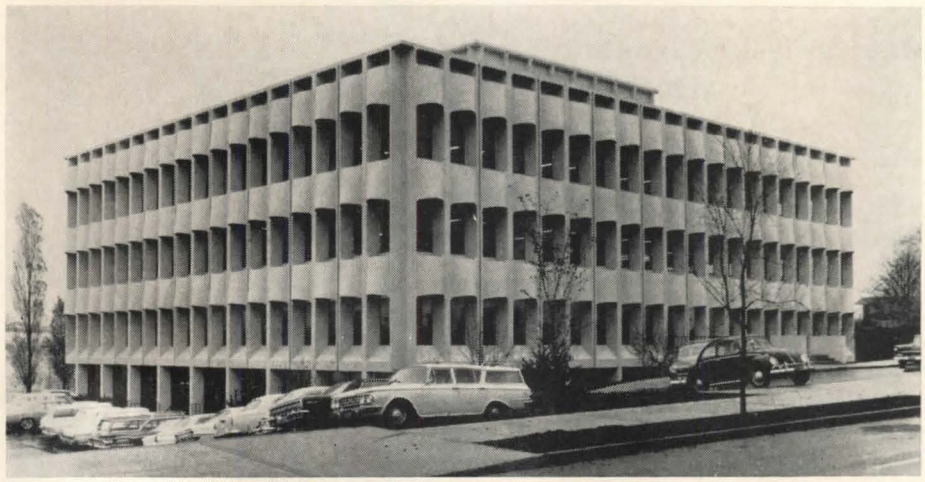


Fig. 1. Loadbearing sunhoods protect glass walls of IBM Building in Portland, Oregon.

SYMBOLS USED IN FORMULAS

I_{no}	The amount of solar radiation normal to sun's rays at the outer limit of the atmosphere (429 Btuh per sq ft)
CN	Atmospheric clearness number (dimensionless)
k_a	Coefficient of atmospheric transmission
I_{dn}	Incidence of direct solar radiation for surface normal to sun's rays (Btuh per sq ft)
I_{dp}	Incidence of direct solar radiation in the absorbing plane (Btuh per sq ft)
K	Cosine of the angle between the direction of the sun's ray and a line perpendicular to the absorbing plane
m	Angle between a plane perpendicular to wall and the plane of the vertical shade extension
n	Angle between plane of vertical wall and plane of horizontal projection perpendicular to wall
H_i	Horizontal projection factor for wall (i)
V_i	Vertical projection factor for wall (i)
i	Subscript denoting orientation of wall

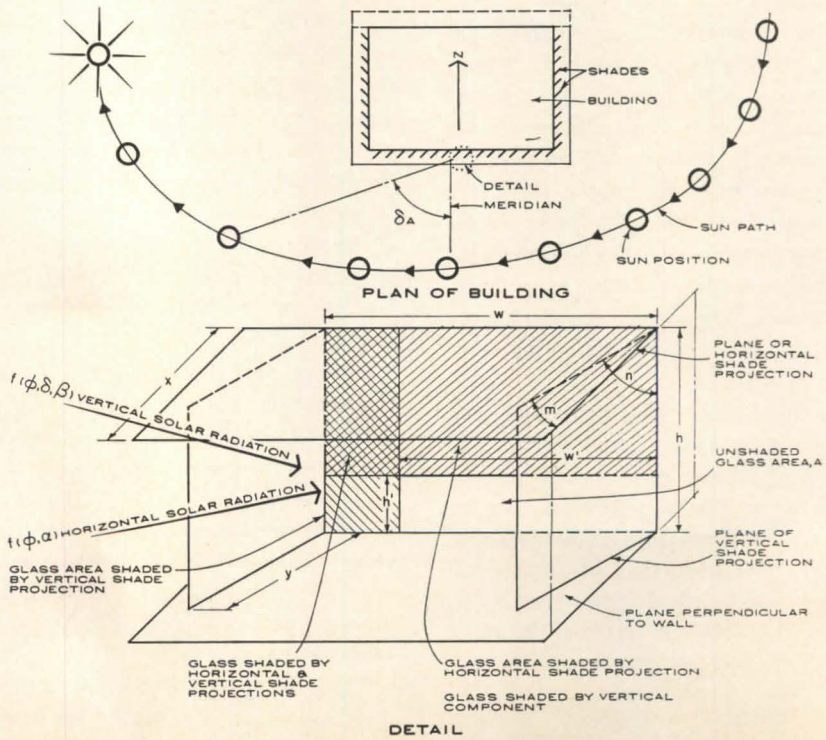


FIGURE 2. DIAGRAMATIC REPRESENTATION OF SUNHOODS INDICATES WHICH COMPONENTS SHADE GLASS

and site orientation can be reflected as an integral part of the building façade.

The hoods act as a solar barrier that reflects radiation from the sun in direct proportion to its intensity. This reduces the flow of solar heat that would normally enter a building and at certain hours cause the mechanical cooling equipment to perform at peak capacity. This peak capacity establishes the size of the cooling equipment; if the peak is diminished by sunhoods, the size and cost of equipment will be less.

The Mathematical Approach

The following example of a hypothetical building in Los Angeles illustrates the principle of providing enough shade to maintain an economical cooling load on the refrigerating equipment on a day late in September. The walls of the rectangular building face east, west, north and south. Regular plate glass windows, 12 ft by 10½ ft high, are shaded by vertical and horizontal sunhoods that could be metal or concrete. Horizontal continuous hoods project 5 ft from the glass line, and vertical hoods extend between the horizontal members. These 4-ft-long verticals are placed at an angle of 60° to the line of the building façade.

An analysis will enable a designer to compute:

- The percentage of glass shaded by the exterior sunhoods at any hour of the day.
- The amount of solar heat transmitted through a given window at any particular hour of a day.
- The expected cooling load for the building with and without the sunhoods.

The first step is to compute the unshaded glass area as a function of the time of day, the sun azimuth, and the wall solar azimuth—an azimuth is the horizontal angle of a point measured clockwise from a north-south axis—to obtain a direct measure of the over-all effectiveness of the sunhood module. Figure 4 tabulates formulas for the width and height of unshaded glass from which the areas can be simply found. Symbols used in the formulas can be identified on Figs. 2 and 3.

FACTORS FOR UNSHADED GLASS DIMENSIONS

Wall orientation	Solar azimuth α	Equivalent unshaded glass height (h′)	Equivalent unshaded glass width (w′)
South	$\alpha < (180 + m)°$	$\left[h - V_{SS}\, x\right]$	$\left[w - H_{SS}\, y(\cos m + \frac{\sin m}{\tan \delta_A})\right]$
	$\alpha = (180 + m)°$	$\left[h - V_{SS}\, x\right]$	$\left[w\right]$*
	$\alpha > (180 + m)°$	$\left[h - V_{SS}\, x\right]$	$\left[w - H_{SS}\, y(\cos m - \frac{(\sin m)}{\tan \delta_A})\right]$
East	$\alpha < (90 - m)°$	$\left[h - V_{SE}\, x\right]$	$\left[w - H_{SE}\, y(\cos m - \frac{\sin m}{\tan \delta_B})\right]$
	$\alpha = (90 - m)°$	$\left[h - V_{SE}\, x\right]$	$\left[w\right]$*
	$\alpha > (90 - m)°$	$\left[h - V_{SE}\, x\right]$	$\left[w - H_{SE}\, y(\cos m + \frac{\sin m)}{\tan \delta_B}\right]$
North	Shading Not Required		
West	$\alpha < (270 + m)°$	$\left[h - V_{SW}\, x\right]$	$\left[w - H_{SW}\, y(\cos m + \frac{\sin m)}{\tan \delta_D}\right]$
	$\alpha = (270 + m)°$	$\left[h - V_{SW}\, x\right]$	$\left[w\right]$*
	$\alpha > (270 + m)°$	$\left[h - V_{SW}\, x\right]$	$\left[w - H_{SW}\, y(\cos m - \frac{\sin m)}{\tan \delta_D}\right]$

* Shading due to thickness of vertical shading member neglected.

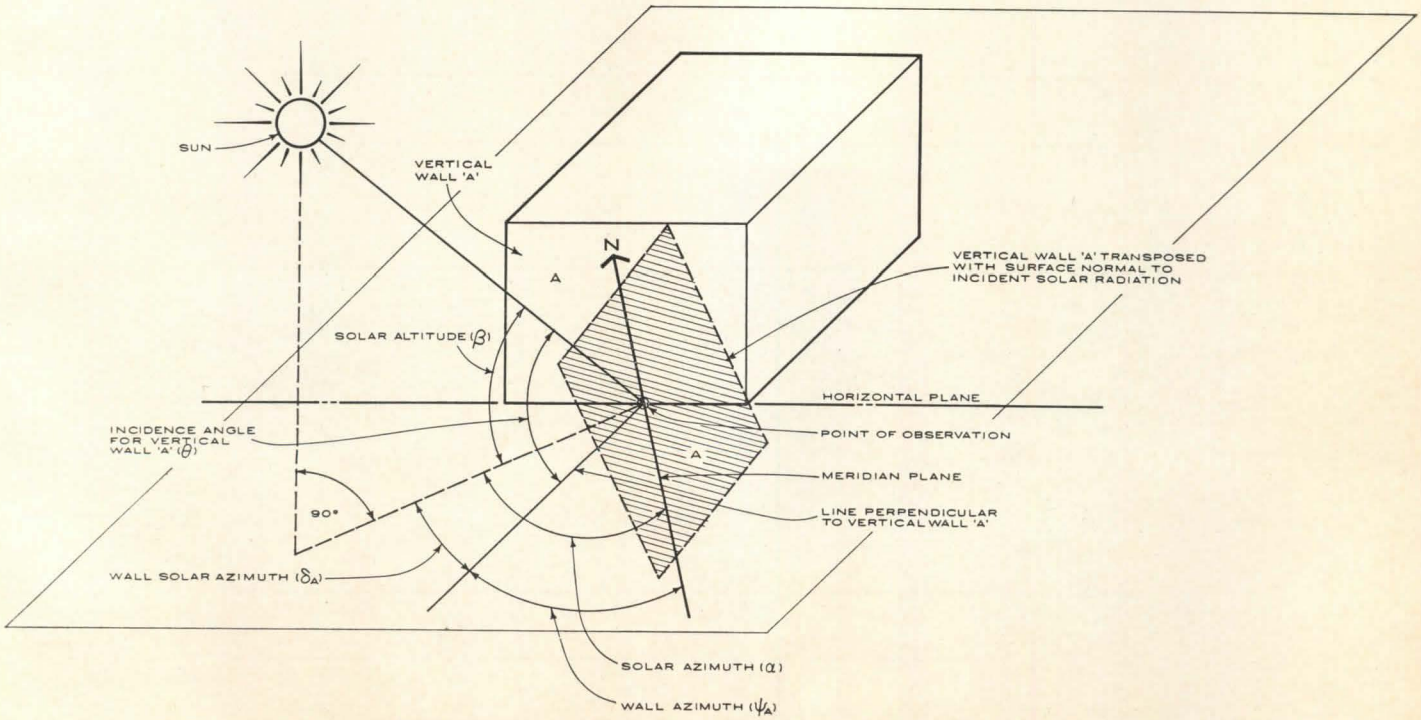


FIGURE 3. SCHEMATIC ILLUSTRATES NOMENCLATURE USED FOR COMPUTING AREAS OF SHADED GLASS

The wall solar azimuth angle for Fig. 2 can be picked off Fig. 5, which gives incident solar gain and shade projection for March or September 21 in Los Angeles. To use this chart, line up a protractor with the observation point and the required time of day, and measure the angle to the lines drawn normal from the observation place to the K_e, K_w, and K_s scales.

This diagram also yields values for H and V, the horizontal and vertical shade projection factors, which can be applied to the mathematical shading model (Fig. 2), and permit a visual analog to the time value of the sunhood as the sun moves across the sky.

From the foregoing information, a designer can construct a graphical presentation of the percentage reduction of solar radiation upon the structural glass walls of a building. Fig. 6 shows this reduction for various mean sun times.

Finally, Fig. 7 plots heat gain through the glass walls at each hour of the day for shaded and unshaded windows. From this, the designer can read the amount of heat that will have to be cooled for the comfort of the occupants of an unshaded building.

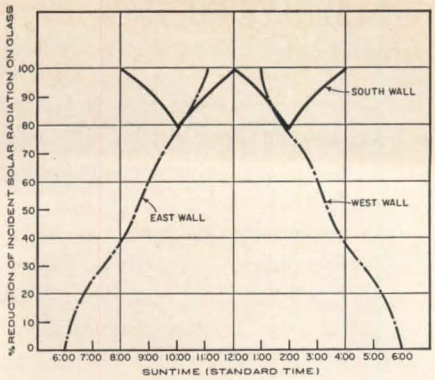


FIGURE 6. PERCENTAGE REDUCTION OF SUN ON WALLS

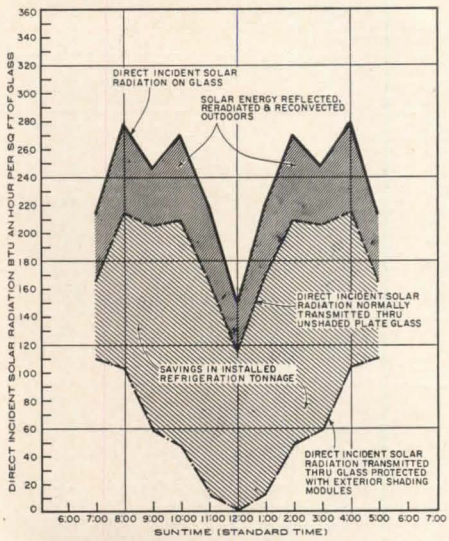


FIGURE 7. SUNHOODS REDUCE REFRIGERATION LOADS

The Economic Conclusion

Sunhoods can effect considerable savings for operating a building. The final chart of the preceding mathematical analysis (Fig. 7) clearly substantiates this. The upper curve of the graph marks the amount of solar heat falling on the glass walls. The next curve indicates the amount of heat transmitted through plate glass, and the lower curve plots the solar heat passing through glass that is protected with exterior sunhoods.

Between the two lower curves is an area representing heat that would enter an unshaded building. To obtain equal comfort, with a shaded building, this amount of heat would have to be removed by air conditioning.

Maximum refrigeration saving would occur at 9 A.M. and 3 P.M. The graph indicates that, at these times, about 150 Btuh for each sq ft of glass wall can be saved through use of exterior sunhoods. Also, because a building's refrigeration equipment must be sized for its peak cooling load, another saving can be made. For an unshaded building, the peak radiant heat gain incident to the glass is about 215 Btuh per sq ft of glass, but for a shaded building the peak drops to 110 Btuh: a significant reduction of 50 per cent.

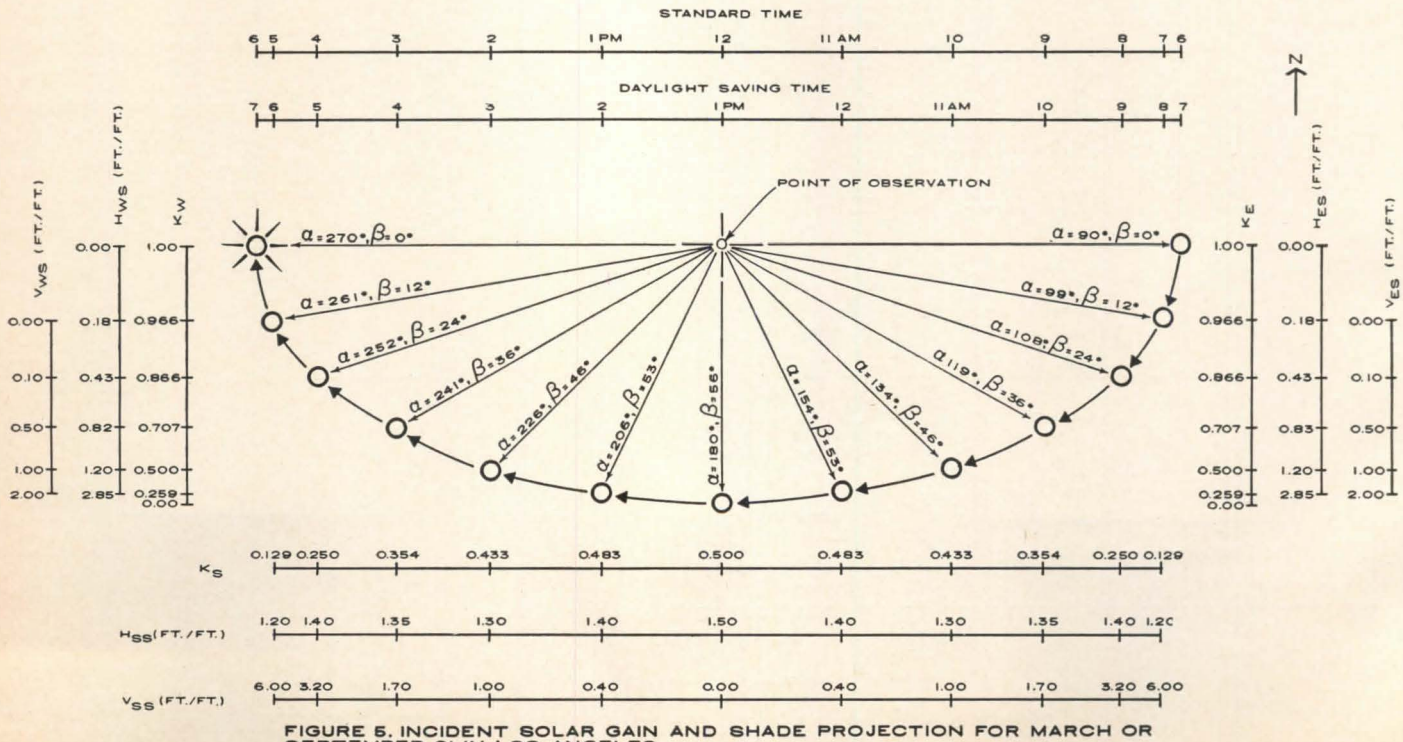


FIGURE 5. INCIDENT SOLAR GAIN AND SHADE PROJECTION FOR MARCH OR SEPTEMBER 21 IN LOS ANGELES

SETTING THE STAGE FOR PLASTIC DESIGN

The author shows how and why plastic methods can improve design and lower the costs of multistory steel structures, and discusses some design procedures.

By Ira Hooper, of Seelye, Stevenson, Value & Knecht, New York City consulting engineers.

When building codes accept plastic design, steel-framed multistory buildings will go down in costs. Such acceptance may take time, but code authorities weighing the merits of the design theory can find convincing evidence that plastic design is not just a theory worked out on paper. Last year, the Department of Civil Engineering at Lehigh University tested three-story steel frames designed by plastic theory, and showed that mathematical computations agree with full-size test results.

The new theory will soon remove the two-story height limit imposed on plastic design by the American Institute of Steel Construction rules adopted in 1958.

The effect of plastic design on high-rise structures is somewhat indirect. Basically, multistory steel structures gain several advantages if designed as continuous frames instead of simply connected steelwork.

Continuity reduces deflections, and so makes it possible to use more economical high-strength steel; it avoids rotation of beam ends that often cause concrete floors to crack; it withstands earthquake forces well; and in many regions where welding is commonly used, costs are lower for continuous frames.

All these benefits apply with plastic design or elastic design, but plastic design is preferable because it takes advantage of steel's ductility, and takes account of the strength of the total frame instead of dealing with separate members. The result is a uniform factor of safety. Elastic design results in widely differing factors of safety throughout a structure, and consequently builds up excesses of strength in some areas.

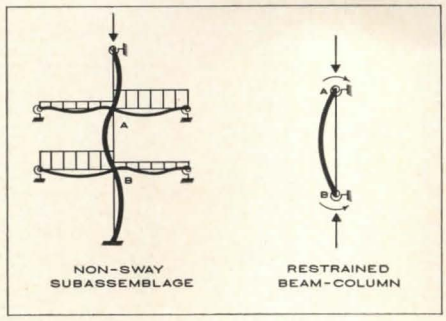
However, elastic design is not obsolescent. It will be needed by designers to calculate horizontal and vertical deflections of structures under service loads because plastic design does not indicate deflections, only ultimate load capacity.

What's Eligible

Frames can be analyzed by plastic methods developed by Lehigh University if they have these characteristics:

- The frames are plane, with rigid joints connecting rectangular patterns of beams and columns.
- The frames must be braced perpendicular to the plane of the frame because biaxial bending is not allowed in the computation.
- Vertical loads and lateral forces must be in the plane of the frame.

An ideal building for plastic design would be long and narrow, with frames extending across the width of the structure. These frames would be identical, and would be prevented from moving their planes by the exterior walls and the floor slabs. Although design aids have been developed for both braced and unbraced frames, the method for unbraced frames is not satisfactory for office practice at present.



Step by Step

The generally recommended procedure for analyzing a braced-frame structure by plastic design involves four steps.

- Make a preliminary design, assuming that the beam ends will develop plastic hinges when factored uniform loads are applied to the entire structure. Gravity loads are multiplied by the factor 1.7, wind loads by 1.4.
- Design the bracing with the assumption it takes all the lateral loads, and the rigid frame will take none.
- Refine the girder design to include the effects of interaction with the preliminary column sizes.
- Finally, redesign the columns with checkerboard loading for maximum column moments, and use subassemblages (see below) and Lehigh Design Aids.

Continuous frames designed to these procedures will save about 10 per cent of the weight of a similar frame designed by the allowable stress method. Most of the weight will be reduced in girders. The same structure designed for simply-connected beams and columns would weigh about 20 per cent more than a plastic design. For unbraced frames, plastic design reduces up to 13 per cent of the steel weight compared with allowable stress analysis.

Three Design Aids

Three new design developments are essential for the plastic design of multistory structures.

- *Reduced Plastic Moment:* A simple steel beam develops its plastic moment when the ultimate load is reached. But if an axial load is applied in addition to the bending load, the plastic bending moment must be reduced because some of the beam's strength is used in resisting the axial force.

The value of the reduced plastic moment depends upon the size of the axial load. To help a designer compute the allowable plastic moment in a beam-column, Lehigh University published tables of reduced plastic moment values for all rolled column sections fabricated from A 36 or A 441 steel. The tables are included in a three-volume series called *Plastic Design of Multi-Story Frames.*

- *Moment Rotation Curves:* In the same publication, Lehigh offers a series of 21 charts to help solve the problems of vertical members in multistory frames. The charts show the relationship between the end moments and the end rotation of a beam-column with axial load. This relationship is affected by the slenderness of the beam, the amount of axial load, and the end restraints.
- *Subassemblages:* For convenience, parts of a structural frame can be isolated before analysis. The above figure

shows a typical isolated section, called a subassemblage, of a beam-column AB, and its rigidly-connected neighboring members. The restraining effects of the neighboring members on the end rotations of AB can be quickly evaluated so that the restrained beam-column will be equivalent to the subassemblage. The rotational springs in the figure represent the restraining moments.

The Lehigh Design Aids provide a short-cut to computing the strength of the beam-column. Member AB will be adequately sized if its end moment plus the girder restraining moment exceeds the external moment applied at joint A or B.

More To Be Solved

Plastic design is not yet sufficiently developed to cover all aspects of structural analysis. There are still a few problems with multistory frames that have not yet been solved.

No one is sure how much light, exterior sheathing or interior partitions contributes to bracing a structure. When these bracing effects can be measured, designers will be able to call for less bracing steel in a structural frame.

When adjacent frames are not identical, such as in square towers, the stronger frames tend to carry the excess load of the weaker frames. This extra load is transferred through floor slabs that act as horizontal diaphragms. Research is needed to determine how to design the stronger frames to support the weaker, and how to design the floor slabs to transmit the forces.

Because plastic design makes use of steel's ductility, it holds great promise for structures that must resist earthquake or blast loading. Such loads cause lateral deflections in a structure, but plastic design limits sidesway in order to keep a frame stable. Therefore, more information is required to reconcile these requirements.

Lastly, plastic design must be extended to include three-dimensional structures. This will require greater knowledge about the ultimate strength of columns with bending about both axes. Several complex theoretical solutions have been put forward, but experimental data is needed to back up the theory.

None of the obstacles are insurmountable. Research continues, and eventually plastic design will be as familiar as conventional structural theory.

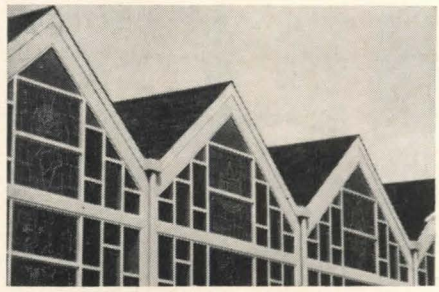
PLASTIC METHOD SIMPLIFIES ROOF DESIGN

Plastic analysis simplified computations and lowered steel weight for a gable frame chapel roof.

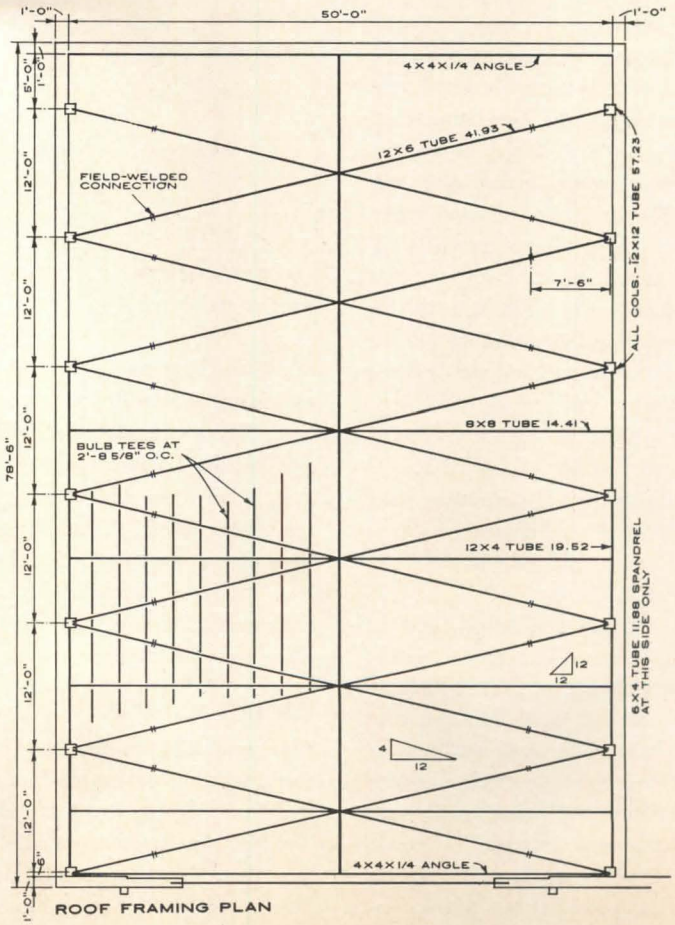
With no published formulas to work from, a structural designer who studied architecture in Taiwan, developed a structural analysis for an interesting arrangement of gable frames roofing a chapel in Monroe, Michigan. The designer accomplished the analysis with plastic design methods that saved about 15 per cent of the weight of steel estimated for a conventional, elastic design.

The structural designer, Mrs. Sumy Ling, who at that time worked for the designer of the chapel, Boris Berger, a Cincinnati architect, elected to design with the plastic method in order to take advantage of the ductility of steel. This led to an economical design and simplified the computations.

The result is a roof comprising



Glass wall of chapel fits into steelwork.



skewed frames supporting six-and-a-half 12-ft-wide bays that span the 50-ft-wide chapel. Four bays over the seating area are gabled at the side walls. From outside, the four gables look like folded plates tapering toward the ridge of the roof. This ridge extends over the three adjacent bays that support a plane, pitched roof. During preliminary discussion about the church roof, the architect considered a standard pitched roof supported with steel rigid frames or laminated timber frames. However, he offered Mrs. Ling an opportunity to design a more complicated roof system for her Master's thesis.

Berger conceived the gable arrangement, and Mrs. Ling designed it. She made three applications of plastic analysis: trial and error, plastic moment distribution, and the method of combined mechanisms. Under normal office conditions, only one method would be necessary. For a structure with several degrees of indeterminacy, such as the church roof, combined mechanisms is the best method. For one or two indeterminacies, one of the other forms would be sufficient.

Hip But Square

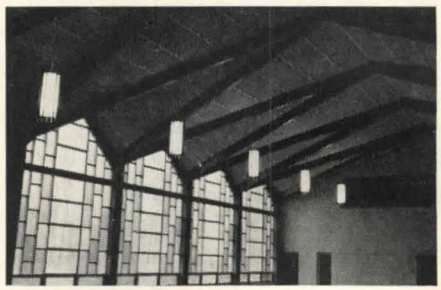
All steelwork is fabricated with square and rectangular steel tubes, because the shape provides greater resistance than WF sections against twisting in the main frames. This uniform shape—but not size—also improves the appearance of the steelwork, which is left exposed on the underside of the roof. After installing a gypsumboard roof deck, the contractor painted the underside of the deck and the steel frames.

Frames were assembled in sections at a steel fabricator's shop, and erected in sequence so that field connections were welded at points of minimum bending moment. Thus the contractor shop-welded the end sections of rafters to the column tops to form Y-shape assemblies that were bolted to concrete footings.

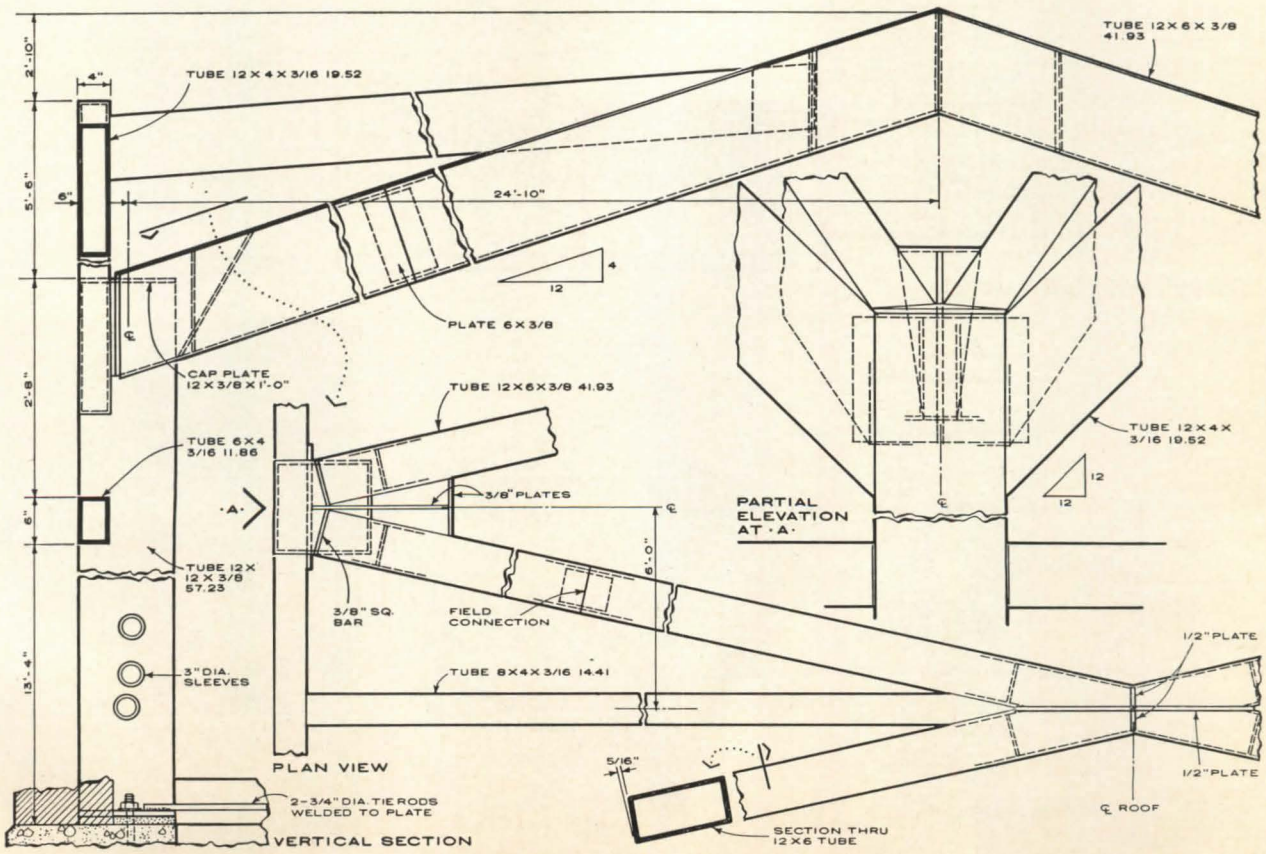
Similarly, the hip rafters were shop-welded into large X-shape components that were suspended on a crane line while erectors field-welded the units to the stub rafters atop the columns. Gable members welded into V-shape pieces were connected between the column tops, and, finally, workmen fitted beams extending from the top of the gable to the ridge.



Shop fabrication reduced field welding . . .



. . . for tubular steel in gable-frame roof.



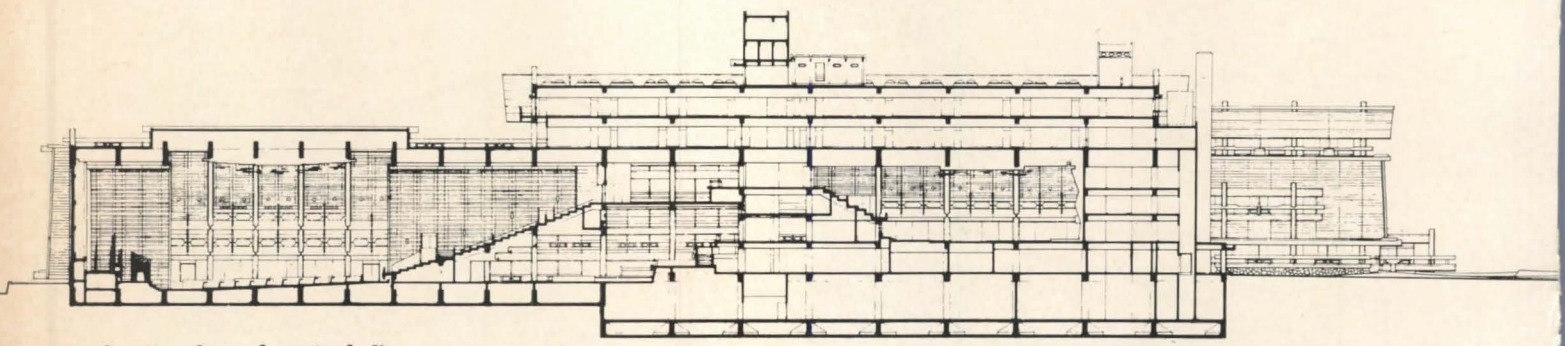
TRAPEZOIDS SHAPE INTERNATIONAL CONFERENCE CENTER

In June 1963, the winner of a national competition for the design of an International Conference Hall in Kyoto, Japan, was 40-year-old Sachio Otani of Tokyo. At the time, Otani had been on his own for only two years, having been a designer in the office of Kenzo Tange.

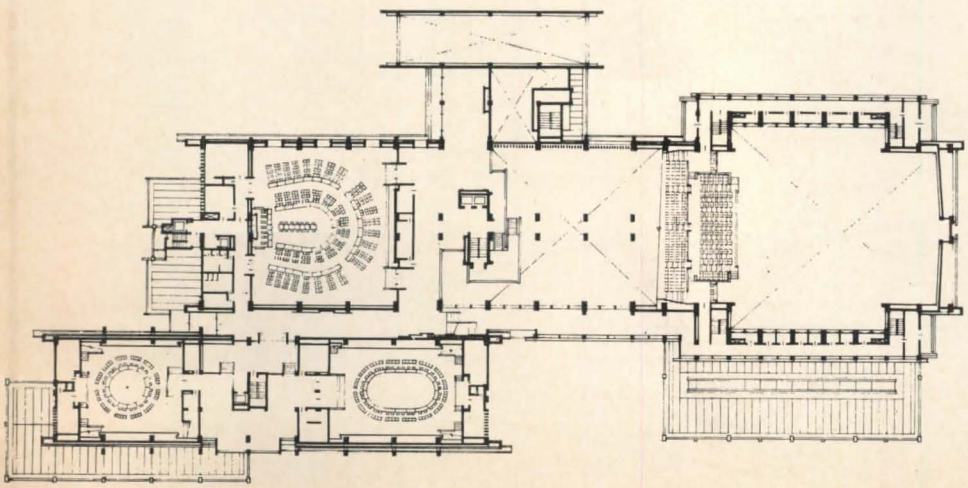
Now completed, the hall is both an interesting example of the continuing emphasis of some Japanese designers in finding a continuity of usage for the ancient forms of their architecture, and also the three-dimensional result of Otani's search for an expression of the differing spatial needs dictated by the activities that take place within the center.

The architect found that most needs of the building could be satisfied by an architecture using trapezoidal sectional shapes in two ways: one, for major spaces, with the long parallel of the trapezoid as base; the other, for offices and smaller conference rooms, "inverted" so that the shorter parallel is at the bottom. Otani says that the trapezoidal shape is not only singularly well adapted to the uses to which he put it in the conference center, but also derives from "one of the oldest structural forms in Japanese architecture, so-called 'Gasso-zukuri' (a structure focussed on the principal rafter)." He says that the "inverted" trapezoid also has claims to a noble ancestry: "The inverted-trapezoidal sectional shape is also derived from another style of Japanese architecture (a style with long eaves and wide openings) that was contrived by our predecessors through the long life in the close relationship with the natural features of Japan." A comparison of the east side of the Main Sanctuary of the classic Ise Shrine (*overpage*) with end walls and roofs of the conference hall substantiates at least, that there is a strong continuity of form here.

In arranging the spaces for the many activities within the building, Otani relied mainly on a horizontal dispersion of different activities: the first and second floors are spaces for delegations; third is for the conference secretariat and press; fourth for the public; fifth for conference rooms; and the sixth for delegation offices. These, of course, connect vertically by means of elevators, stairs, and ramps. The visible manifestations of the plan for activities might be said to occur on the long elevations, while the aspects showing break-down of the elements into different spaces can be seen on the end elevations. Otani considers that he has synthesized two approaches for his plan: a linear type in which rooms are strung along a connective



Section through main hall



Main conference floor plan



Photo: Ch. Hirayama

Main Hall

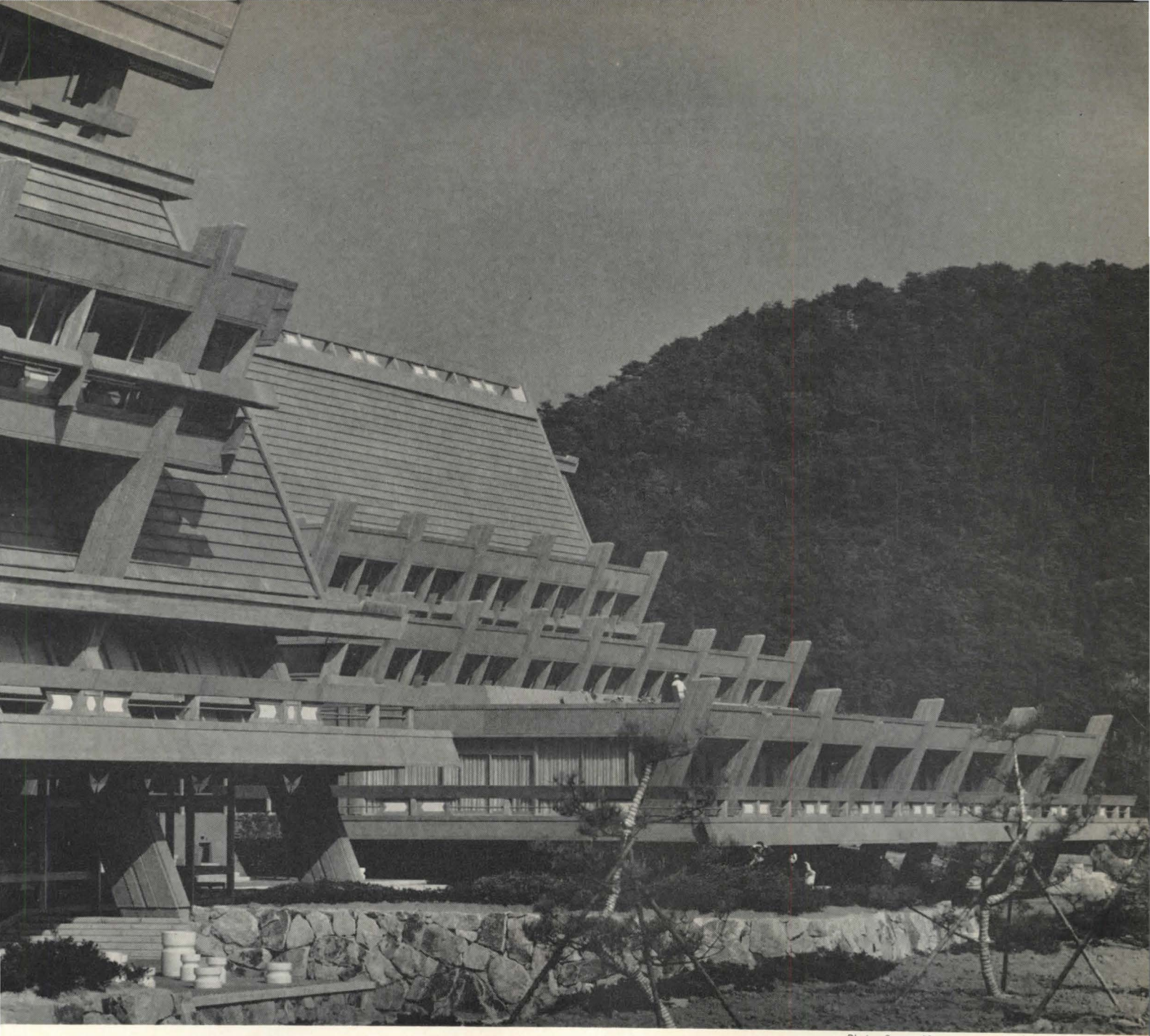


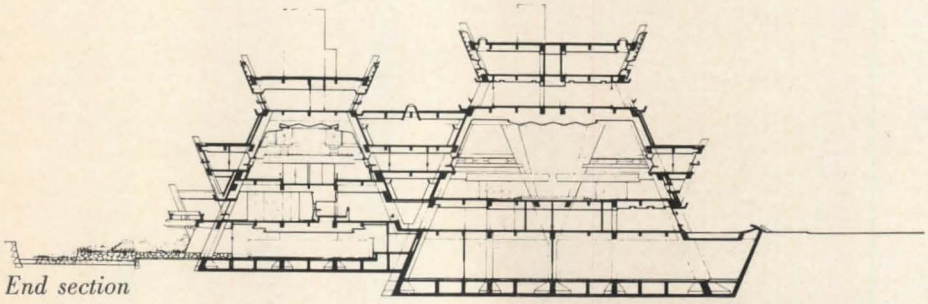
Photo: Osamu Murai, courtesy Kokusai-Kentiku

Photo: Ch. Hirayama

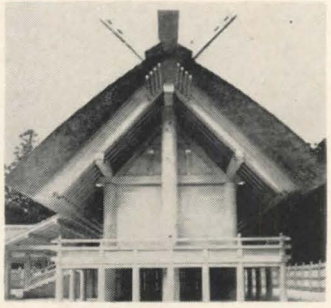
space such as a hall, and a type in which satellite units are grouped around major spaces (such as the great hall). The Kyoto synthesis, he says, "consists of two main ridges, and its spaces of the whole system are formed by piling up in layers. The whole spaces forming this hall can be increased as the hall may be increased in the ridges' directions." In effect, the expansibility in two directions is kept by the horizontal separation of activities, and the desired effect of a group of interacting spaces is achieved by the interrelation of the larger and smaller trapezoidal spaces of both types around the central space of the main hall and lounge. The architect comments that "the cross-section shape reveals a whole frame of the structure. In the case of the conference hall, it has resulted in pursuit of a method for integrating each individual space, and accordingly, the manifestation of the cross-section shape is meant to be an expression of the basic principle of architecture."

The General Assembly Hall, rising from the first to the fourth floor, holds 800 delegates, 200 observers, 800 visitors, and 200 interpreters and reporters. A "medium"-sized conference hall holds 550 people, two smaller conference rooms accommodate 300 each, and two committee rooms each have a 50-person capacity. In addition to offices for the permanent staff and convention delegates, there are lounges, restaurants, and press rooms.

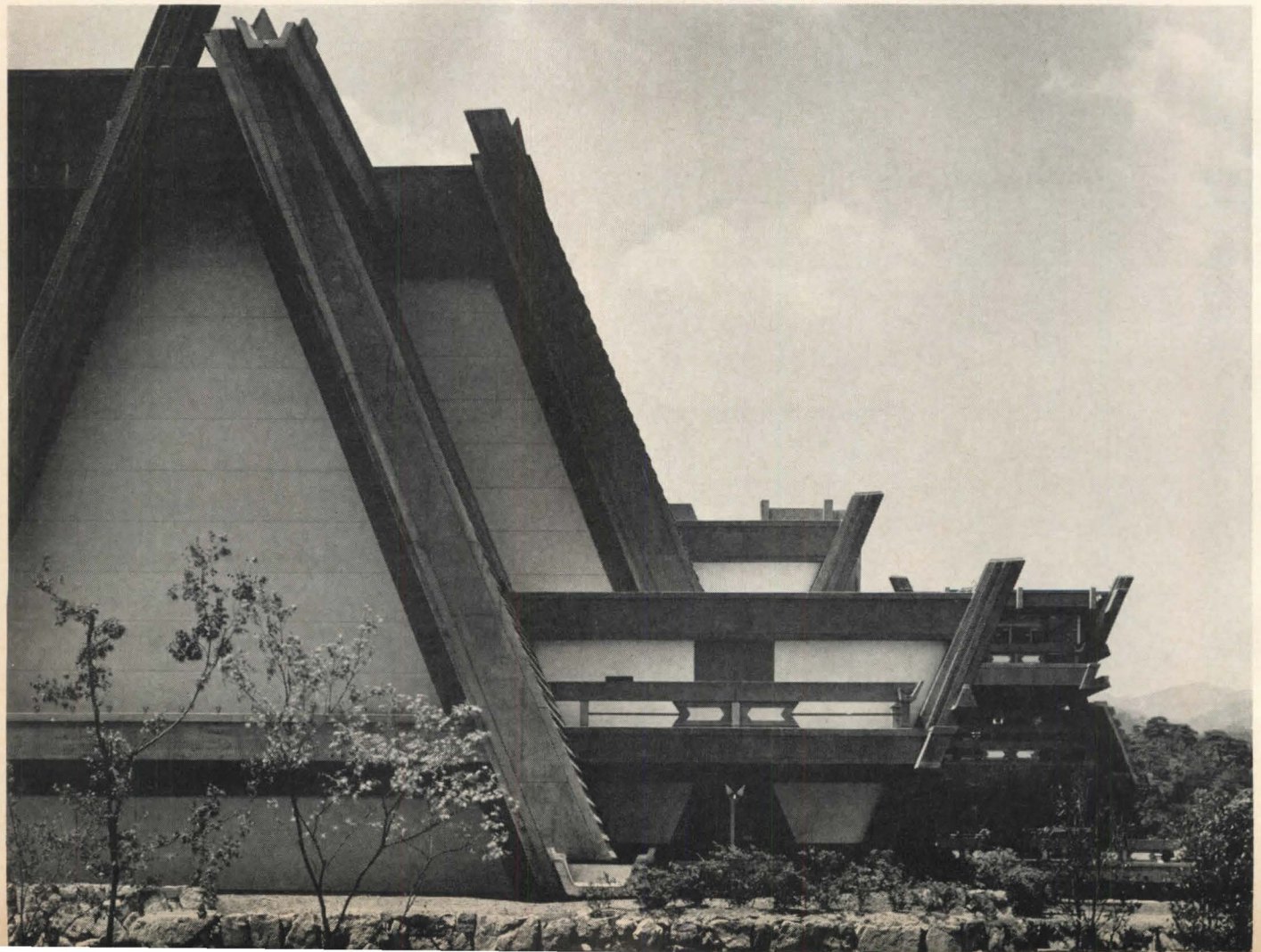
Viewed purely from photographs, the building recommends itself strongly as a complete composition, particularly when one considers it in the historical perspective of Japanese architecture. One suspects that closer examination would find the multiplicity of details and shapes and treatment of surfaces somewhat overdone, as though the architect did not believe that the larger planes and spaces could carry the message. With traditional concern for siting, the building is placed away from downtown Kyoto on the verge of a woodland lake, with a fine view of Mount Hiei from its many balconies and terraces. Structurally, it comes as a great surprise to read in literature from Japan that this eminently all-concrete-looking building is "steel frame, reinforced concrete."—JTB



End section



Reprinted from "Ise: A Prototype of Japanese Architecture," by Kenzo Tange, et al., by permission of The M. I. T. Press, Cambridge, Mass. © 1965.



MICHIGAN'S CAMPUS CAPITOL

The middle-sized Midwest city of Lansing, capital of Michigan, has underway a rather sophisticated campus plan for increasing governmental spaces by architects Smith, Hinchman & Grylls Associates, Inc., who hail from the big city of Detroit.

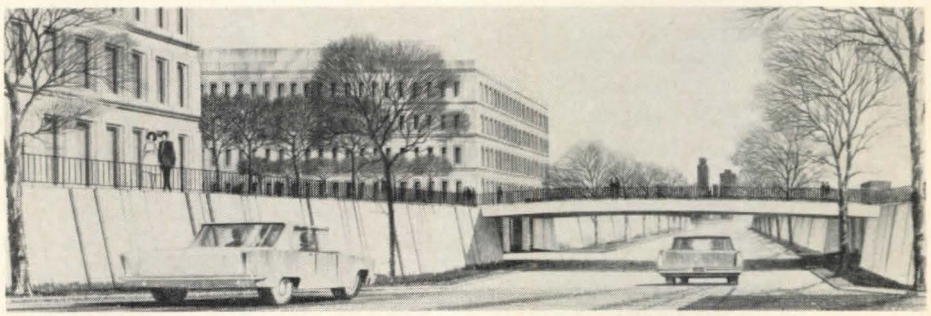
The phased plan, when fully completed, will provide Senate and House office buildings on either side of the existing Capitol, buildings for the Secretary of State and the Highway Department (which, of course, gets its own separate quarters in Michigan), three office buildings for various departments, and a Supreme Court building. The buildings will sit on a landscaped mall-plaza rising 6 ft above grade to accommodate two levels of parking for 4000 automobiles beneath. Two major streets that traverse the 10-block site will be depressed and crossed by wide pedestrian bridges at the center of the mall system.

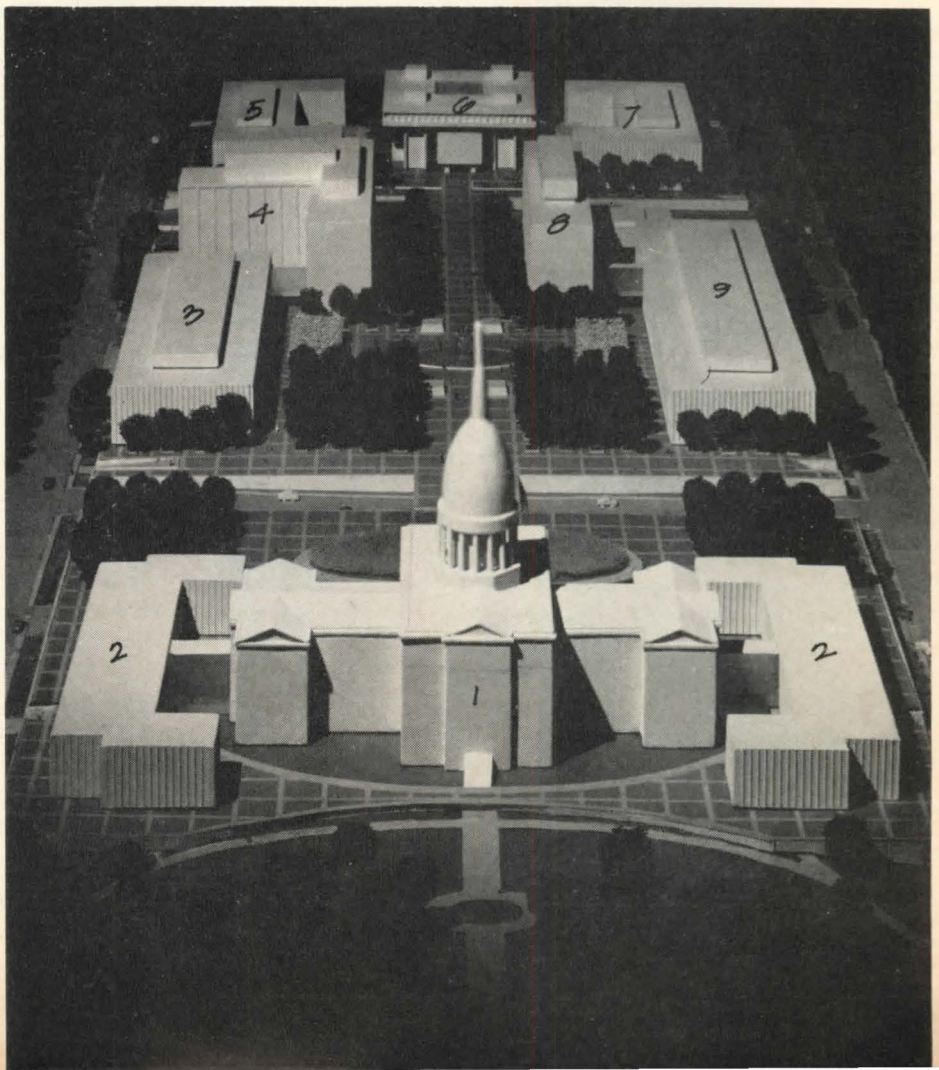
Indicated architecture of the new office buildings is appropriately calm and dignified. The Supreme Court, which will form the opposite focal point on the mall to the Capitol, will be free-standing and more assertive in design. In the to-be-approved design stage, it bears a slight resemblance in profile to Warnecke's design for the Hawaii State Capitol. The future Senate and House office buildings are placed in their Capitol-embracing position for obvious convenience of access, but also to allow any possible future replacement of the older building to be accomplished with minimum disturbance to the business of the state.

The parking structure will be sand-blasted, cast-in-place concrete; the office buildings will be limestone-faced; and the Supreme Court will be faced with either granite or marble. Currently under construction are the buildings for the Secretary of State, the Highway Department, and a general office building, together with a two-story underground parking structure servicing all three buildings. Construction of the Supreme Court building is expected next, with its underground parking facilities. Other structures are scheduled for construction in the near future.

Model photographs and presentation drawings indicate a total complex that gives promise of being impressive and gracious without indulging in the pomposity that is always a danger in this kind of governmental project. The great mall and landscaped areas between the buildings—all, for a wonder, in the cradle of the automobile, dedicated to the pedestrian—should prove as appropriate to state ceremonies as they are pleasant for just strolling and sitting for visitors and capital employees.

***(1)** Capitol; **(2)** Senate and House office buildings; **(3)** Secretary of State; **(4)** existing Stevens T. Mason Building (by SH&G); **(5)** future office building; **(6)** Supreme Court; **(7)** future office building; **(8)** seven-story office story office building; **(9)** Highway Department.*





TEXAS-SIZE 1%

Texas, second largest state in the union, has a program of university construction that is very likely second to none. Now in the planning stage is some $150,000,000 of future construction, much of it already on the drawing boards, for various facilities on the seven campuses of the University of Texas. Sheer magnitude is not the only item of note, however, Texas origins notwithstanding. There are some bold design ideas coming from one architectural office, and, in fact, the system by which design becomes realized is of special interest.

The current expansion is largely the result of the emphasis by Governor John Connally on education at all levels. Long before the education explosion, however, the procedure for architectural development was virtually the same as it is now. A firm of consulting architects is selected by the Board of Regents (subject to the approval of the Governor), for a term of two years (subject to renomination). To this firm goes the job of designing all new facilities throughout the University of Texas system. (Main campus is at Austin; other campuses are at Galveston, Houston, Dallas, El Paso, Arlington, and San Antonio.) For 1 per cent of the total budgeted cost, the consulting architects carry the design just short of working drawings. From a list of other architects, drawn up with the aid of the consulting architects, a firm of associate architects is selected for each building project; for 5 per cent of the total budget, these associate architects complete the architectural responsibility, working closely with the original designers.

Selected as consulting architects in the fall of 1962 was the Austin office of Brooks, Barr, Graeber & White. It has been said that the influence of Lyndon B. Johnson is felt in Texas down to the level of justice of the peace. On the university's Board of Regents are several longtime friends of LBJ's, one of them a lawyer who is Democratic national committeeman for Texas. The senior partner of BBG&W, Max Brooks, is also an old friend of LBJ's; the firm is sometimes referred to in these parts as "The President's Architects." For many years, they have done all the work at the LBJ ranch, and they are now doing preliminary design on the new LBJ Library (to be built on the Austin campus) as a joint project with Skidmore, Owings & Merrill.

Until last year, a major architectural power at the university was the controller, but the nay- and yea-saying is now done primarily by the Board of Regents. Here enter a few more Johnsons—including a Mrs. J. Lee Johnson, who is head of the Buildings & Grounds Committee of the Board of Regents. The feeling in frontier Texas, according to some, is that architecture is "sissy-stuff" and should be left to women. But this woman is the daughter of Amon Carter, late, powerful publisher of the *Fort Worth Star Telegram*, and has solid experience as an architectural client; the Amon Carter Museum of Western Art in Fort Worth was built by her in 1961 with another Johnson, architect Philip.

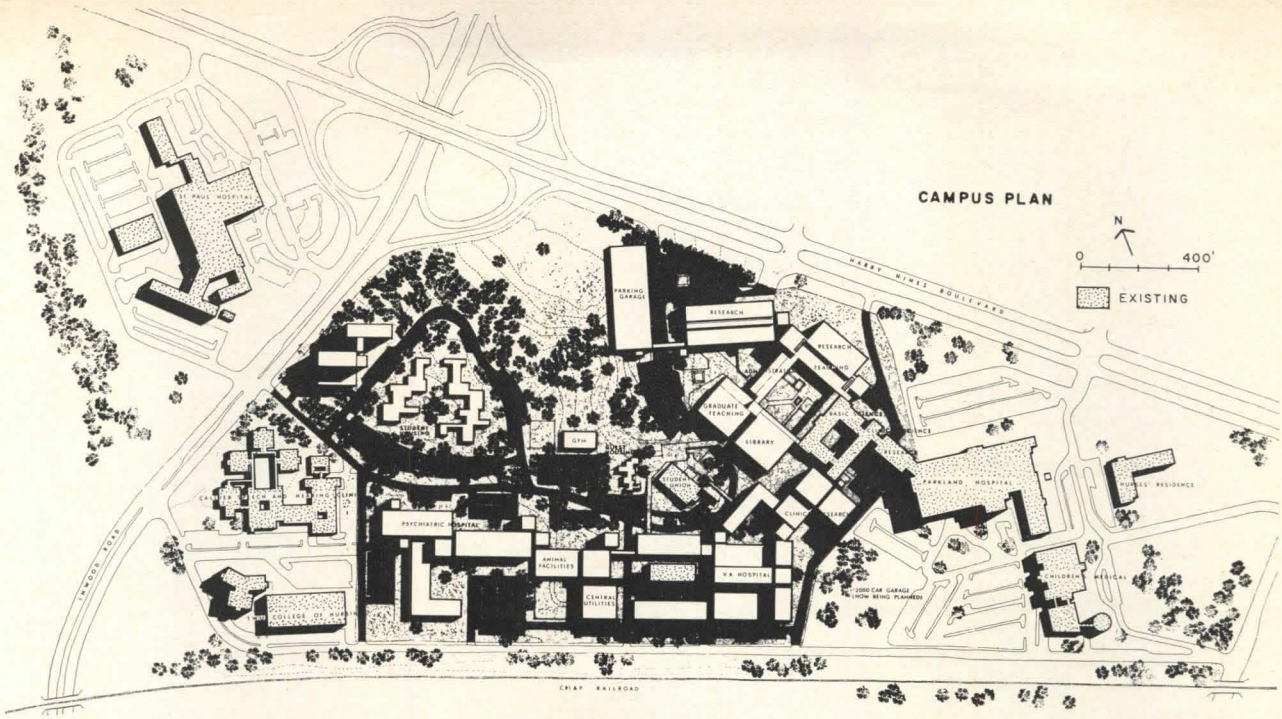
Each of the separate campuses has its own building committee to allocate and schedule buildings; the consulting architects develop a particular design with a subcommittee of that committee. Work is presented first to the university's Office of Facilities Planning and Construction (the director of this new post had been business manager at the Galveston campus), then brought to the Board of Regents for final and financial approval. To date, BBG&W has had approval for almost everything they have proposed. The work they have suggested covers a variety of building types and a variety of architectural "idioms," and covers the length and breadth of the seven branches of the university system.

Among the projects under way: a $7,750,000 physics-math-astronomy building, first phase of a large "research city" (Austin); a $750,000 research office building (Austin); three women's cooperative dorms (Austin); a new medical school and teaching hospital (San Antonio); several classroom-lab-office buildings (Arlington); a new medical library (Galveston); remodeling and addition to clinical science building (Galveston); new $2,800,00 medical library (Dallas); $1,500,000 library addition (El Paso). Shown on these pages are selected examples of these schemes.

Also in process are thorough campus development plans for several of the campuses, and, in fact, a complete reevaluation of previous proposals for all campuses, to reconcile current needs with current costs, and to establish priorities.

Several BBG&W projects have been torpedoed: One, an ambitious coeducational dorm and academic complex for the Austin campus, was revised by the associate architects on the project, when the Board of Regents in effect by passed BBG&W; the reworking is a barely recognizable carbon copy of the interesting first proposal, but meets a strict budget. Another proposal that will not be carried out is for an interesting dental institute at Houston. This scheme, however, is superseded by a much broader plan for the entire campus, a later work by BBG&W.

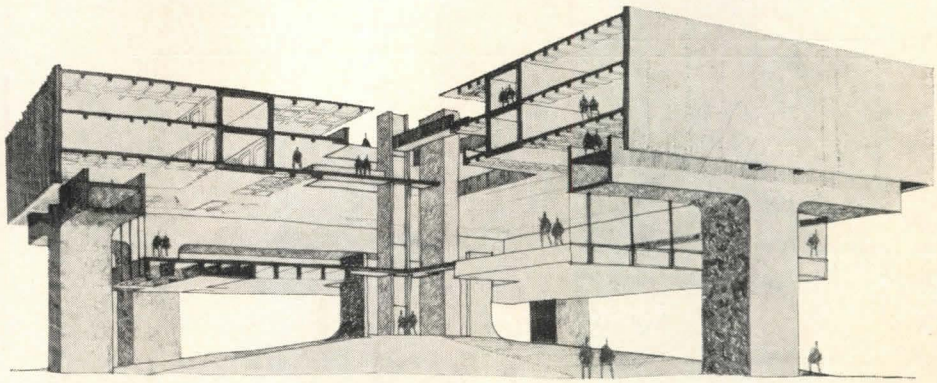
It remains to be seen how many of these buildings will be built as BBG&W envisions them. David Graeber, partner in charge of the university work, admits that "paper architecture isn't worth anything." Much of the real work of architecture, he feels, is selling it, and selling yourself, so that a project is realized. BBG&W has another year in which to work on these projects. (For some reason, their mandate extends only until Sept. 1967; this last extension was for one year instead of two.)

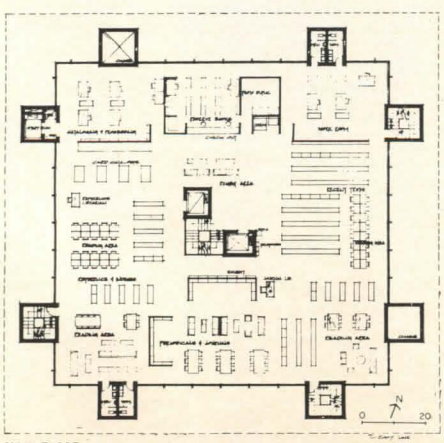




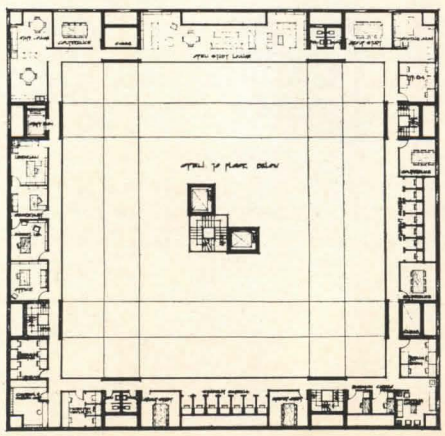
Master Plan For Southwestern Medical School *(Dallas). Expansion plan based on a 1962 plan by Jessen, Jessen, Millhouse & Greeven, previous consulting architect. A compact organization of functions, due to the dependency on close physical relationships among component parts of the campus. In addition to new facilities for teaching, research, housing, information retrieval, etc., there will be two new hospitals (V.A. and psychiatric) to complement existing Parkland Memorial.*

Medical Library *(Galveston). A $1,500,000 library for 200,000 volumes. After severe damage by Hurricane Carla, building committee insists that all buildings be on stilts. Associate Architects are O'Neil Ford & Associates.*

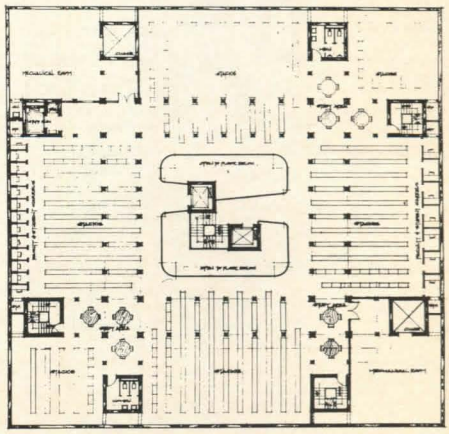




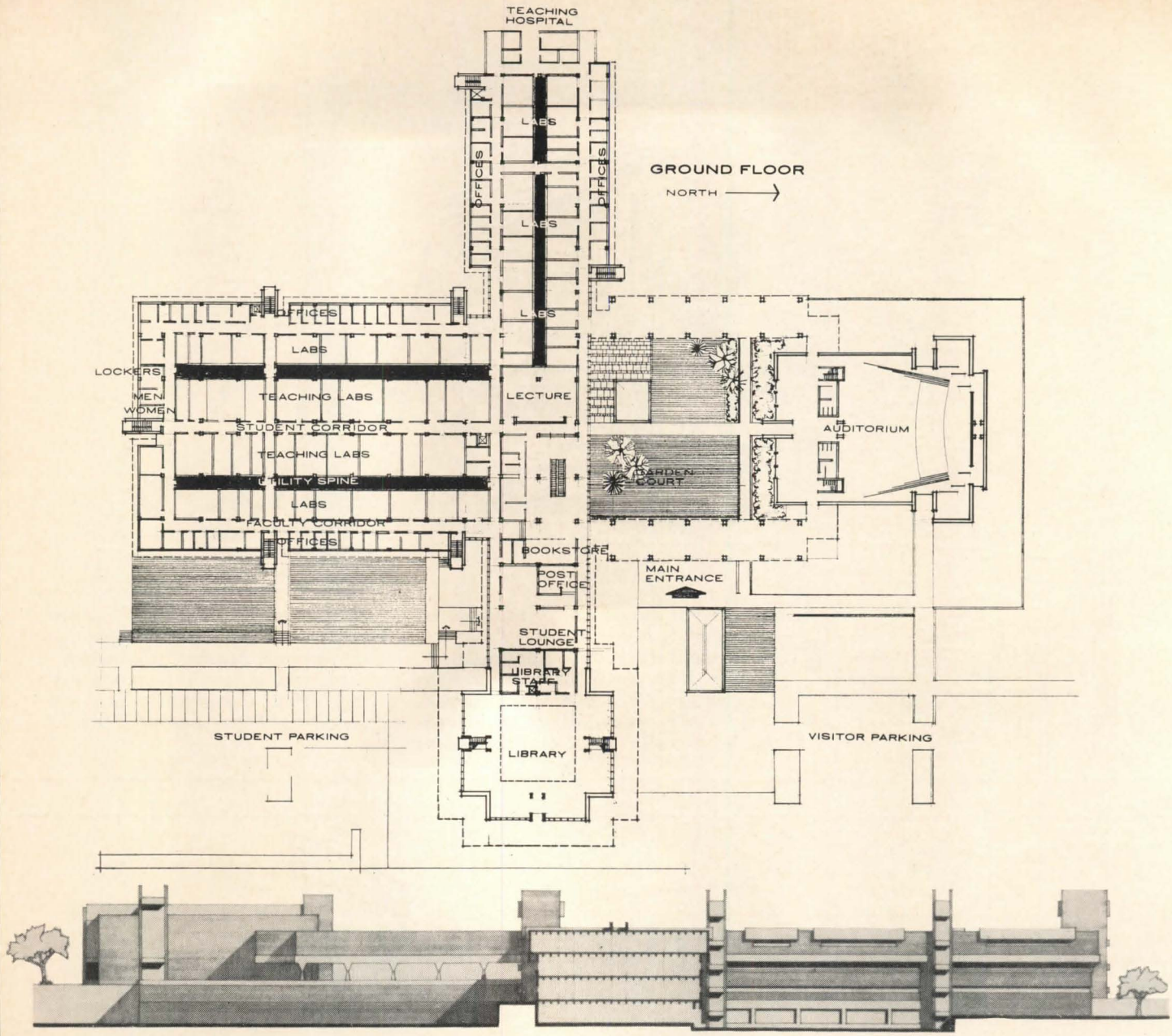
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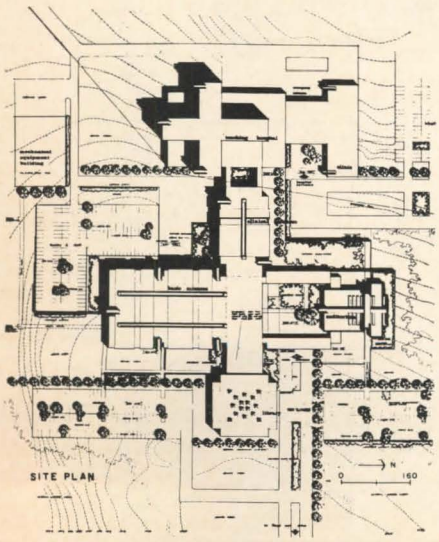
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UPPER STACK FLOOR



WEST ELEVATION - SECTION

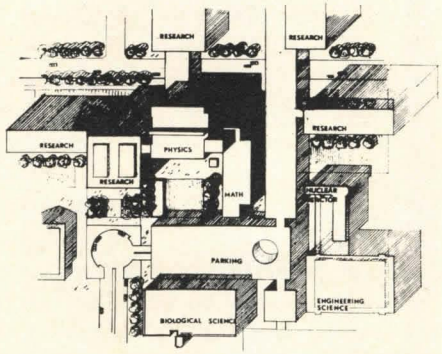


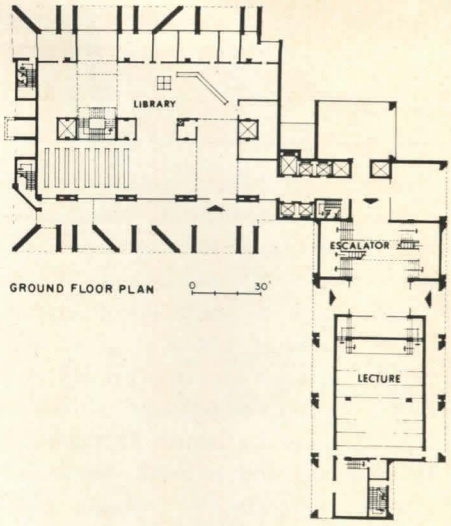
South Texas Medical School *(San Antonio). A $12,000,000 medical school for some 500 students, to be connected to a new teaching hospital being developed simultaneously (under county jurisdiction) by two other architectural offices. Connection is by short double corridors to the west. Utmost flexibility in laboratory areas, providing space for contiguous expansion of any department. Offices separate, restricted to outer perimeter. Laboratories backing up to utility spine, not a new development; major departure for laboratory design is the circulation system, which brings students down central corridor, keeps professors more isolated but still accessible around the periphery of the wing. Entire building is on 4'-8" module, of reinforced concrete, with brick exterior. Future expansion by flopping entire plan over at library.*

"It's impossible to foresee what research people will need in the future," says David Graeber. "When we worked on NASA, it ended up as a campus of separate buildings, and the one called Space Physics is simply not at all used for that purpose now. What we're proposing here is just space, flexible space. You can't build a single building these days and put a name like Space Physics across the front. Form should follow function, they say, but I'm not convinced of that." Associate Architects are Phelps and Simmons & Associates, and Bartlett Cocke & Associates.

Any evaluation of these works should wait until they are completed. A more pressing point to raise at this time concerns procedure. Talking about the consulting architects system, David Graeber concedes that there are "a lot of problems, but it is about the best system." There is some pressure to hire a new architect for each project and hire an architect to work for the university, but he feels that consulting architects from outside are "better, freer, than captive architects."

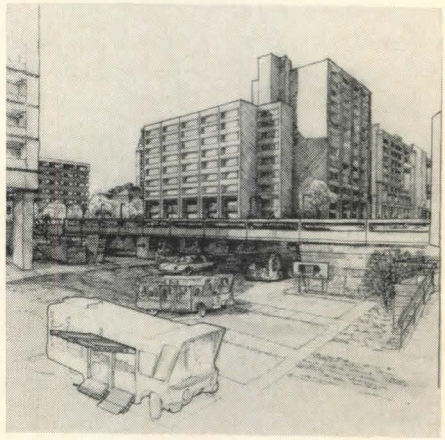
There are other objections. How can the work of any firm be assured of being fully carried out, when new planning studies are invariably undertaken by each new consulting architect? Good design can be shelved. How competent is the Board of Regents to evaluate architecture? Even the Facilities Planning and Construction Office is primarily concerned with financial matters. Good design can be lacking and never be missed. What guarantee is there that the associate architects will carry out a project with which they may be neither in sympathy nor agreement? What is the likelihood that a firm of consulting architects will have the best experience and staff required for the various specialized building types they will encounter? Good design, using the term in its broadest sense, is difficult enough to achieve, without the kind of crash program along many fronts that is part of the university's work.—EP

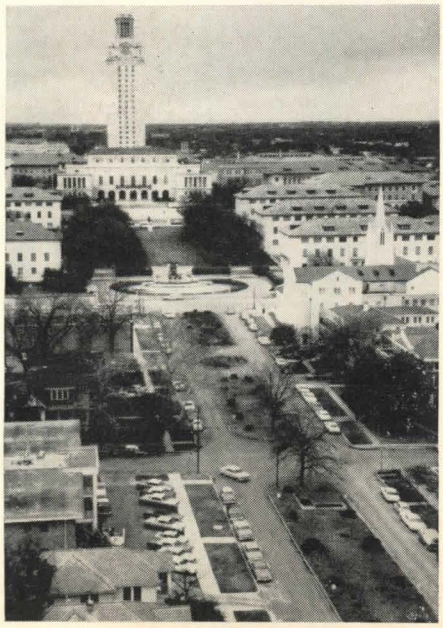


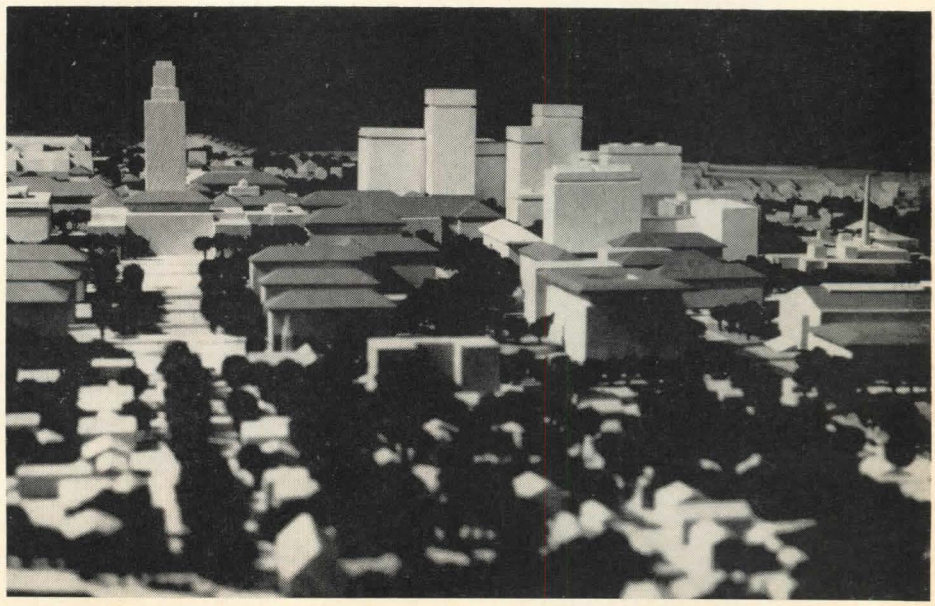


Northeast Quadrant: Engineering, Biological and Physical Sciences *(Austin). A $75,000,000 science center for rapidly expanding needs, to be built in separate but continuing stages over the next six years. High-rise towers, each self-contained with respect to circulation and function, but connected physically. An architectural treatment that will dictate neither height nor size of building stages (functional requirements: i.e., windows, exhaust ducts, etc., to be expressed). "Research towers" to separate the research and graduate facilities from the undergraduate surroundings. Identity as a single project, breaking out of the existing architectural vocabulary. (Architects were not permitted to top the existing main campus tower, but felt that a cityscape of rival towers was justifiable.) Total area of 2,500,000 sq ft; 3000–5000 occupants; 3000 parking spaces; a new road pattern.*

Physics-Math-Astronomy Building is first phase, a reinforced-concrete building of two connecting elements. "The Physics-Math is an unfinished building, really," says David Graeber. "The associate architects may not understand the total concept, and don't have to."







JAMAICA FARES WELL

Even today, when architects and planners constantly talk about planning for everyone in a given environment without usually, as Mark Twain said in another connection, doing anything about it, there still are those who are slighted when it actually comes to passing around the architecture. In health facilities, it used to be the patient. While his amenities might not always rival those of the most rudimentary "motor hotel" these days (see pp. 145–149, JULY 1966 P/A), when he *does* find a place to stretch out in a new hospital, it is usually comfortable. Few and far between, however, have been the new hospitals that provide both imaginative design and planning of the major medical structure *and* pleasant living quarters for the staff. Anything over 15 years old, as most of our prominent hospitals undoubtedly are, always have staff quarters, if not wards, straight out of the days when Lionel Barrymore and Lew Ayres were having at each other in the movie incarnations of the Dr. Gillespie-Dr. Kildare rites.

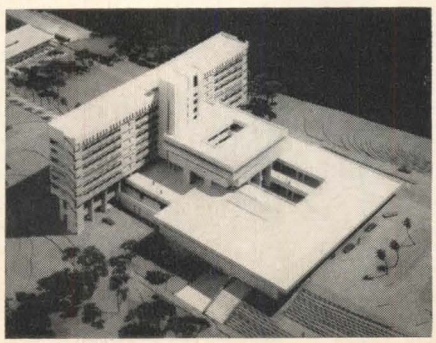
It is doubly pleasant to report, then, that at Montego Bay Hospital in Jamaica, West Indies, The Architects Collaborative of Cambridge, Mass., has designed not only what should be a significant regional hospital (to go into construction later this year), but also some dandy quarters for the doctors and nurses.

The hospital, in Jamaica's second city, will be a 400-bed facility for residents of St. James Parish, and will also act as the central facility for a system of smaller "cottage" hospitals in the region. A major function will be the treatment of an anticipated 120,000 out-patients annually in the obstetric, psychiatric, and pediatric units and the out-patient department. Other space in the new hospital will be occupied by the autonomous Department of Public Health, which is responsible for mosquito and sand-fly control, sanitation, and inoculation.

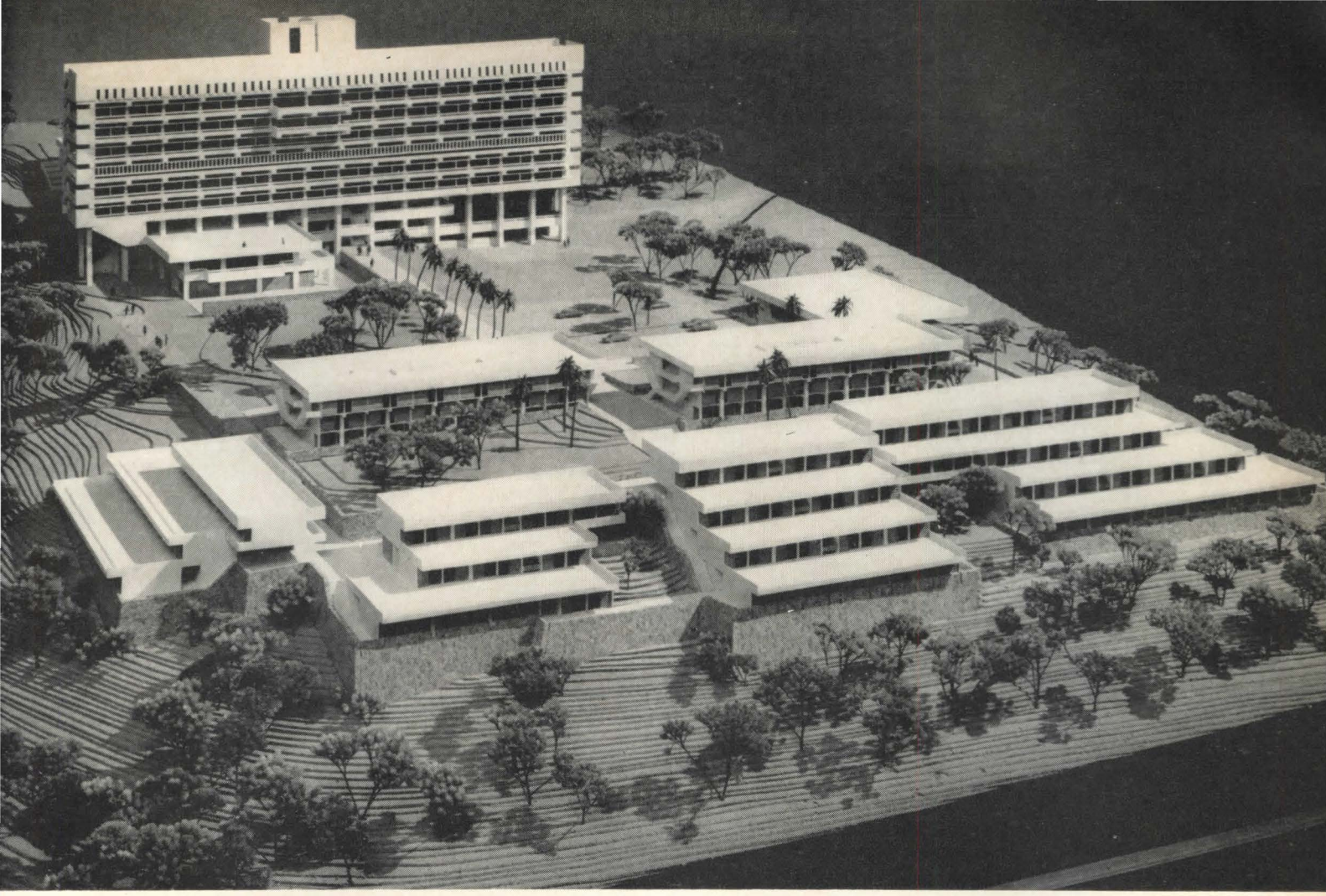
The main hospital building will be in three elements (to be constructed simultaneously, of course): a three-story base containing all out-patient, government, public, and common dining facilities; a medical/surgical core rising to the sixth floor of the nursing, or in-patient, wing; the ten-story nursing wing, at the highest point of the hill site facing the ocean view and benefiting from prevailing breezes and a moderate climate so that artificial ventilation will be unnecessary. The Hippocratic topping to this imposing facility will be staff housing on the northern slope of the site, overlooking the view, terraced down the hill to provide pleasing prospects, and—with open corridors and large movable louvers—fresh, unconditioned air. Kildare never had it so good in Blair General.

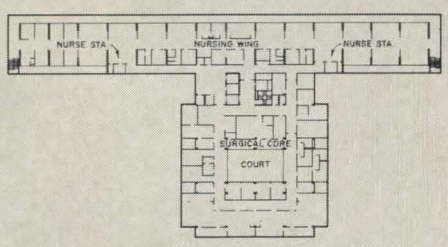
Structure is concrete throughout, with cast-in-place columns and poured rib floor and roof slabs. Lighting and mechanical systems will be integrated with the structural system; hung ceilings occur only where required for antiseptic purposes. Metal louvers will be used everywhere except in the dining hall, where mahogany blades will be used. In addition to natural ventilation wherever possible, the system of courts, terraces, and balconies will utilize the balmy climate to the utmost. Planning for earthquakes and hurricanes will require erection in sections to provide earthquake joints (the tower, for instance, would separate from the rest of the building in case of a major tremor). Although all rooms are based on the constant 22′ width of the bays, fenestration changes as needs dictate. On the sixth floor, the only floor with a mixed use of medical and surgical patients, rooms will be carried to the face of the building and a 6-ft balcony placed around the exterior. The top (psychiatric) floor will have more security-oriented windows, but with a central roof garden for patients. On the nursing floors, obstetrics and surgery will be adjacent to their own services in the tower, and medical, pediatric, and psychiatric floors will rise above the tower. Nursing floors will have two nursing stations each, servicing half a floor, or about 25 patients. In the staff compound, in addition to the laudable living quarters, there will also be an auditorium for lectures and entertainment. There will be two buildings for interns, residents, and technicians, two buildings for student nurses, a graduate nurse residence, and a residence for sisters (plus apartments for four matrons).

The inviting "village" atmosphere of the staff quarters will be achieved by terracing the slopes with native stone retaining walls, broad common areas, interconnecting outdoor stairways, and intimate landscaping.

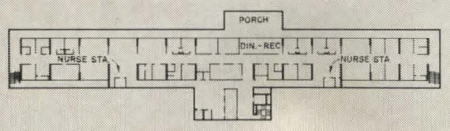


Architects: *The Architects Collaborative (Principal-in-Charge: John C. Harkness; Job Captain: Joseph D. Hoskins).* ***Associate Architects:*** *Chalmers, Gibbs & Associates.* ***Structural Engineer:*** *Paul Weidlinger.* ***Mechanical and Electrical Engineer:*** *Guy B. Panero.* ***Lighting Consultant:*** *William M. C. Lam.* ***Food Service and Equipment Consultants:*** *Crabtree, Dawson & Michaels.* ***Radiographic Equipment Consultant:*** *Eric Hammond.* ***Medical Consultants:*** *Dr. Thomas Chalmers, Dr. Renaldo Ferrer, Dr. Leonard Cronkhite (Dr. Cronkhite?!).*

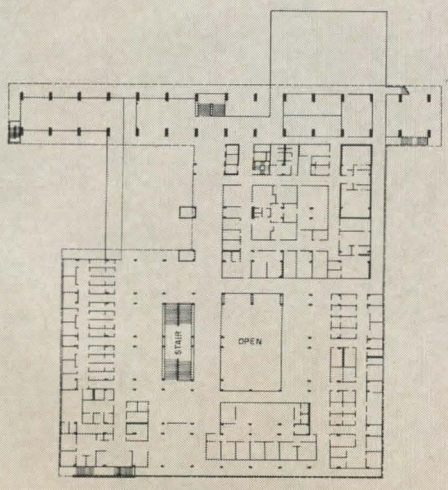




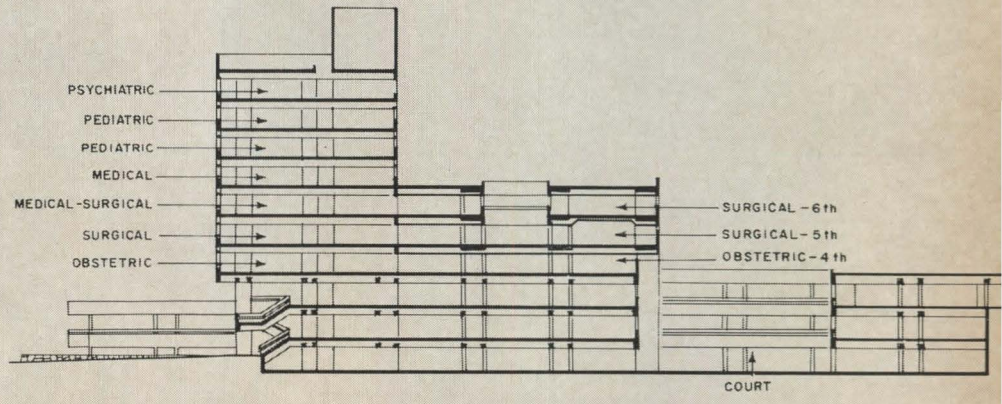
Fifth level; surgical



Eighth level; pediatric



Third level; main entrance



Cross-section

STRUCTURING THE LOOP

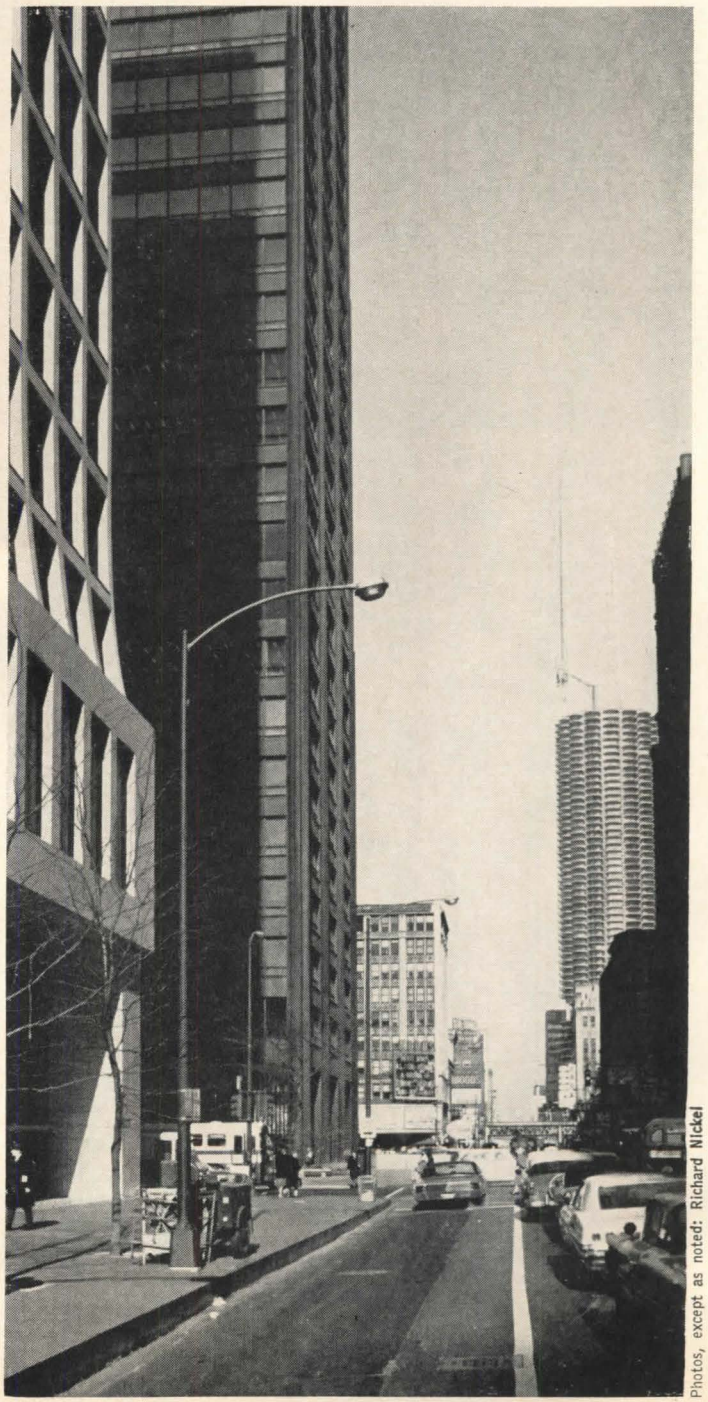
By Donald D. Hanson, Chairman, Department of Architecture, College of Architecture and Art, University of Illinois, Chicago Campus, and practicing architect.

Chicago's Brunswick Building is a 37-story, reinforced-concrete structure, rising 474 ft. from a plaza that surrounds the building on three sides. The building comprises approximately 800,000 gross sq ft, distributed to provide 27,000 gross sq ft on the fourth through ninth floors, and approximately 19,380 gross sq ft per floor for the remainder of the tower. The interior yields 641,200 net rentable sq ft. This is a very respectable 81 per cent net-to-gross ratio. The building is structured by means of a cast-in-place exterior structural grid bearing on a gross transfer girder on the exterior and an interior sheer core. ***Architects:*** *Skidmore, Owings & Merrill, Chicago (W. E. Hartmann, Partner-in-Charge; Bruce Graham, Partner-in-Charge-of-Design; Myron Goldsmith, Senior Designer; R. Henick, Project Manager).*

1



Photo: Orlando R. Cabanban



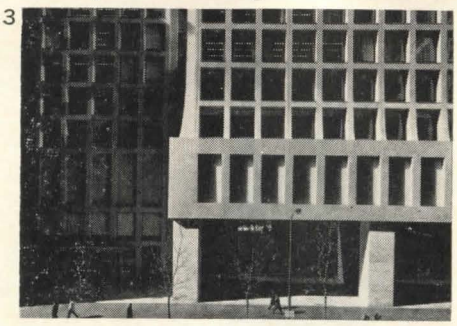
Photos, except as noted: Richard Nickel

Accepting Aristotle's suggestion that a work of art involves a true course of reasoning, I shall attempt to trace such a course for SOM's new Brunswick Building. It is important to demonstrate the location of this building in the context of the Chicago Loop: It is located in the northern part of a north-south median strip of the Chicago Loop area **(1)**. This strip separates the commercial activities on the east from the financial activities on the west. The neighborhood is occupied by government and commercial office structures and restaurants and theaters serving the city center. Today, a significant transformation is occurring that will at last link the east and west sides of the Loop visually and physically.

Perhaps no other major metropolitan center has undergone such an effective face-lifting as a result of the governmental and commercial building boom common to several major cities as the Loop. More significant is that it has occurred without benefit of a major planning edict by any central source. Instead, a haphazard series of unrelated projects has been created by a host of Chicago architects acting independently, demonstrating great discretion in the placement and choice of form of their works. Projects such as Brunswick, the Federal Center, the Civic Center, First National Bank Building, and the Connecticut Mutual Insurance Building have been loyal to the theme of plazas and arcaded first levels, with recessed glass-enclosed lobbies free from visual clutter, other than occasional exhibitions. A cityscape of transparencies and reflections is the result for pedestrians, plus the pleasant impression of a seemingly uninterrupted ground plane of rich and less rich materials. The new open spaces bring to Chicagoans the opportunity for adopting European modes of plaza living with their parades and people-watching. What of these public spaces in Chicago's bitter winters **(2)**? Of course, they then have minimal use other than visual, for the climate of Chicago is rigorous.

The Brunswick Building is part of another pedestrian aspect of the transformation of this urban center; in this instance, it even assumes a major role as one of the initiators. The level immediately below the street and plaza is being claimed from the automobile and the janitors by these new buildings, and developed as enclosed arcades, allowing the pedestrian the choice of walking within a controlled environment of shops, bars, and cafés through the Loop area on inclement days. True, today the opportunity is limited. Nevertheless, the idea has been initiated and its possibilities extended to the point where serious considerations are now pending in Chicago to link much of the Loop area in a similar manner with the addition of moving sidewalks. Ultimately, this plan would connect the Loop to all of the major commuter railroad stations. This would accomplish the long overdue transportation link and at the same time provide increased commercial frontages on major pedestrian paths.

3



The Brunswick Building possesses all the characteristics heretofore mentioned, and, again, like the others, it remains singularly apart from adjacent properties. Traditionally, to be a "good-neighbor" building meant the virtual submission of design autonomy to the context within which the project was placed. This, of course, was done to maintain visual coherence in the urbanscape. This hypothesis assumed that a new order could not hope to equal the existing order, or perhaps it assumed that a transition would be too chaotic.

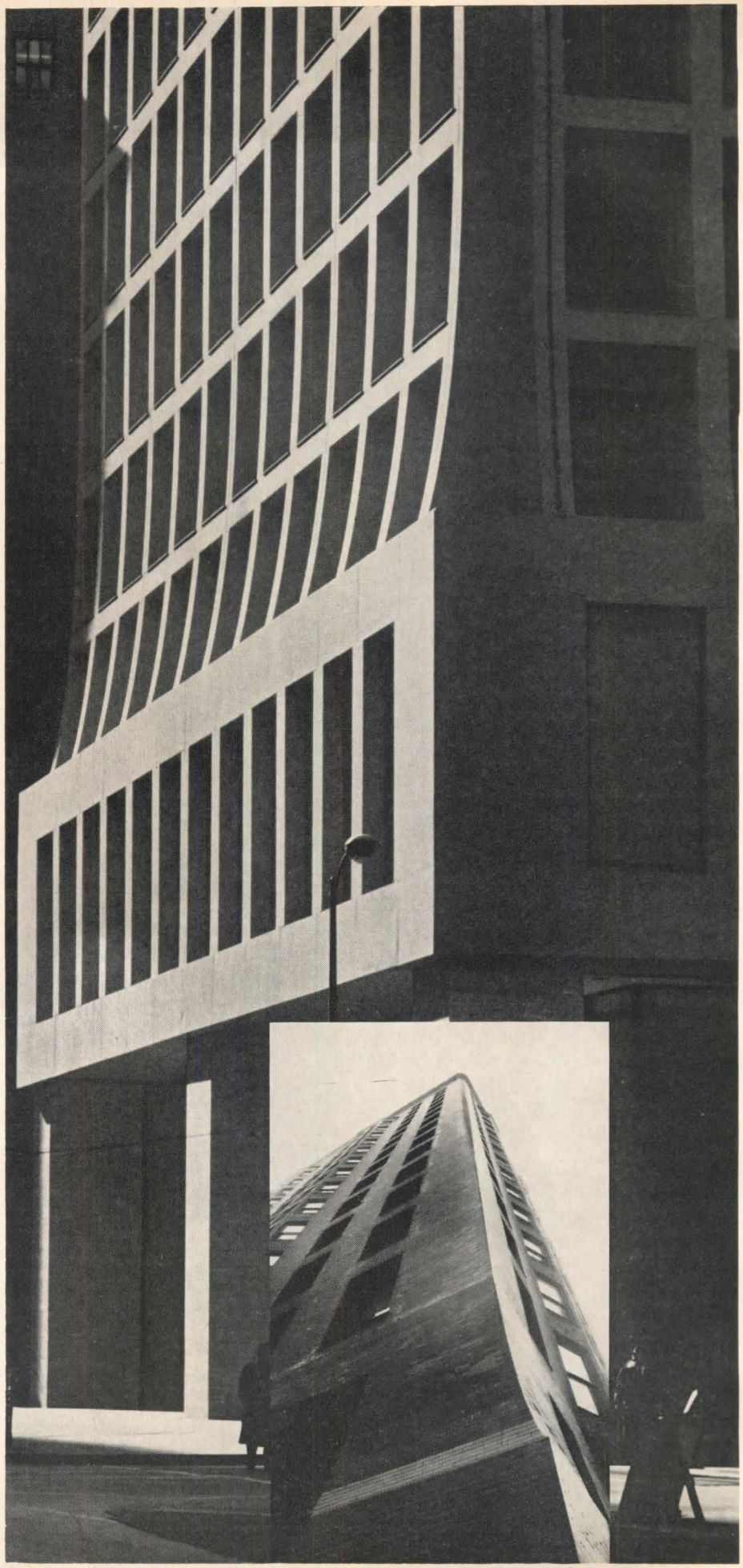
The recent developments in the median-strip of the Chicago Loop dispute this hypothesis and have established that a new order can and will emerge. It does so largely from a new scale of values of the clients and the architects and changing factors of economics that result from these new values. In the Chicago Loop, the day of one or two-sided buildings with or without party walls is rapidly passing, and in its place buildings that offer all facades to light and/or ventilation are becoming commonplace. Gone are the first- and second-class offices that resulted in a wide range of rents for similar square footages within a building because of compromised exterior exposure. In days past, only those edifices commanding civic prestige were afforded the luxury of generous siting. To those of us who must live and work in such an urban center, these new structures are a welcome development.

In the near future, the center of the Chicago Loop area will be typified by single, detached structures placed discretely on what will become a series of interwoven plazas. If properly landscaped and equipped for the pedestrian, this could present Chicago with one further amenity to the inhabitants of its center city. Earlier, I referred to the program demands for a larger floor area at the lower levels of this tower. The designers of the Brunswick Building have sought to resolve this problem by the addition of a smaller structure **(3)**, which connects itself uncom-

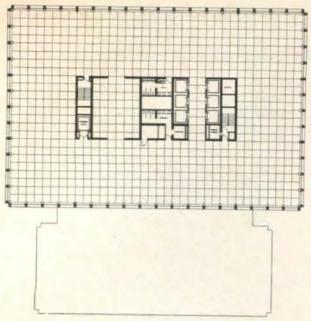
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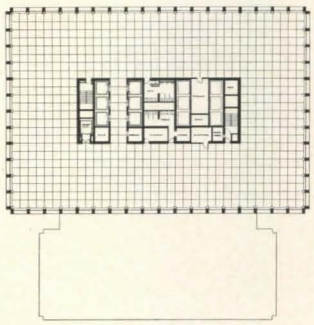
fortably to the major tower form. The articulation of the facade of this smaller unit makes a great effort to emulate the strength of the tower and its visually powerful second-story transfer-girder. Unfortunately, in the smaller unit, though great effort has been made to continue the theme, it is no longer structurally necessary or visually rational. It does contain the mechanical equipment for a large part of the building, which in part justifies the blanking-out of the bays in contrast to the normal glass infill. The tower structure is easily comprehended visually (4). The exterior structural grid is composed of concrete columns 9′-4″ on center, integrally tied on each floor with spandrel beams. The cross-section of these columns is reduced at every floor corresponding to the reduction of loads. Trouble begins when these columns finally arrive at the top of the transfer girder. The visual resolution of this connection seeks to emulate the form of Burnham & Root's Monadnock Building (5), a few blocks away, by means of the columns gently curving out of a vertical plane to be received on top of the major girder. The columns distribute their loads to a 21 ft high by 8 ft wide reinforced concrete transfer girder, which, in turn, distributes its load to ten 7-ft-sq columns 56 ft on center. The concept of a bearing grid arriving at a large transfer girder and transmitting its load vertically through a minimum of giant columns has established itself in many buildings throughout western Europe and the United States as a motif of our era. In the case of the Brunswick Building, the choice was made to articulate the three structural members quite independently of each other, whereas in SOM's University Hall on the Chicago Circle Campus, the same feat is performed with greater success by expressing the girder and the major columns as a monolithic form. At Brunswick, the finishing of three orders of structure, from the top down, consists of a painted, cast-in-place concrete bearing grid; a painted, cast-in-place transfer girder; and then an unfortunate surfacing of the lower columns in travertine stone. One can endlessly dispute the



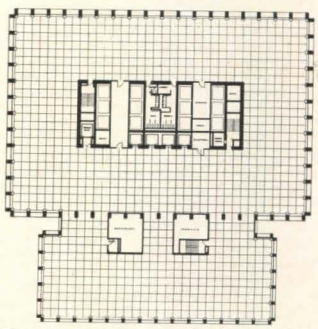
4 5 Photo: Maude Dorr



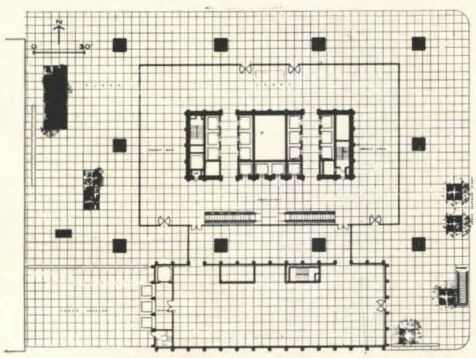
Typical floor: 23rd through 35th



Typical floor: 10th through 22nd



Typical floor: 4th through 9th



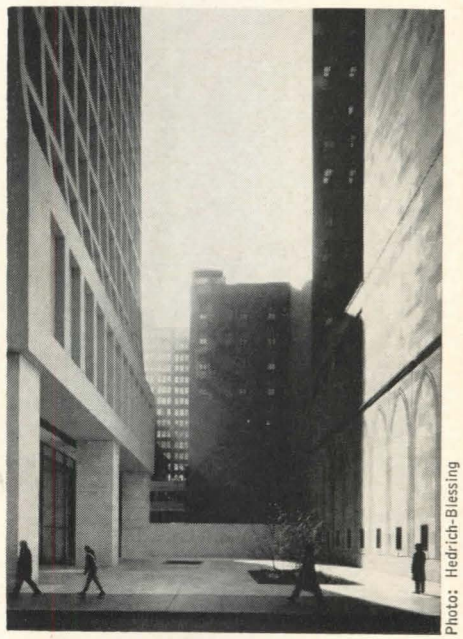
Plaza floor

morality of the painted concrete surface, but those architects with experience in building in dirty, industrial cities will recognize that, although this may not be the ultimate solution, it is certainly a necessary step to insuring the appearance of the building facade over a long period. The travertine columns on the lower level fail to express the monolithic quality one seeks as the consummation of all the bearing forces converging upon them. I am reminded that, earlier, in Manhattan, SOM's Lever House gave a similar impression with the encasement of those columns in stainless steel.

The impression of structural heroics created by the introduction of the transfer girder is lessened upon examination of the structure of the Civic Center immediately across the street to the north of this building **(6)**. There, the same heroics as the transfer girder at Brunswick are repeated at every floor of the building, but are acceptable as a repeat of large spans and less conspicuous at the same time. The two buildings present to one another a facade of three major bays at street level. In the case of the Brunswick Building, this rhythm does not project itself up the face of the building, whereas, in the Civic Center, these three major bays become the facade's predominant order from top to bottom.

The Brunswick Building lobby is enclosed by a series of black frames recessed behind the outer walls of the structure **(6)**. These frames are very conspicuous against the background of light materials used throughout the building. The Civic Building has a similar enclosure of dark framing members around its lobby area, but, in this case, it is visually less of a contrast to the observer within and without the lobby proper.

The area to the west of Brunswick has been developed as a plaza, but has yet to be equipped for the use of the pedestrians of the city **(7)**.

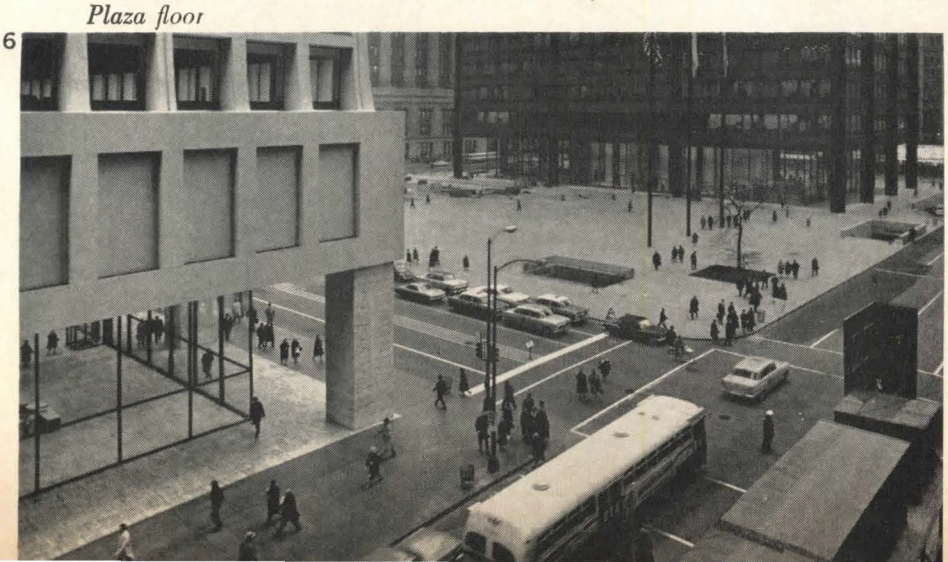


7 Photo: Hedrich-Blessing

When it is finally finished, it will provide a very pleasant retreat from the traffic of the street and the broad, blank expanse of space of the Civic Plaza directly to the north of it. The firm of Skidmore, Owings & Merrill of Chicago seems single-handedly to have undertaken to provide this city with a series of "parkettes," and it has done so without the loud fanfare a similar accomplishment might occasion in Manhattan. Directly to the east of the Brunswick Building is the Connecticut Mutual Insurance Building by SOM, which again repeats the "parkette" to the east of its walls.

One's ultimate conclusion is that the Brunswick Building does possess strength in concept and execution. This building, had it been executed by many other architectural offices, would have been heralded as a major accomplishment; in terms of the standards SOM has set for itself, this building falls in its second rank of excellence. The Brunswick Building, nevertheless, is most significant in the role it plays in the creation of a new urbanscape and the perpetuation of the theme of urban development that has been respected by many who have had an opportunity to build within the Chicago Loop.

6

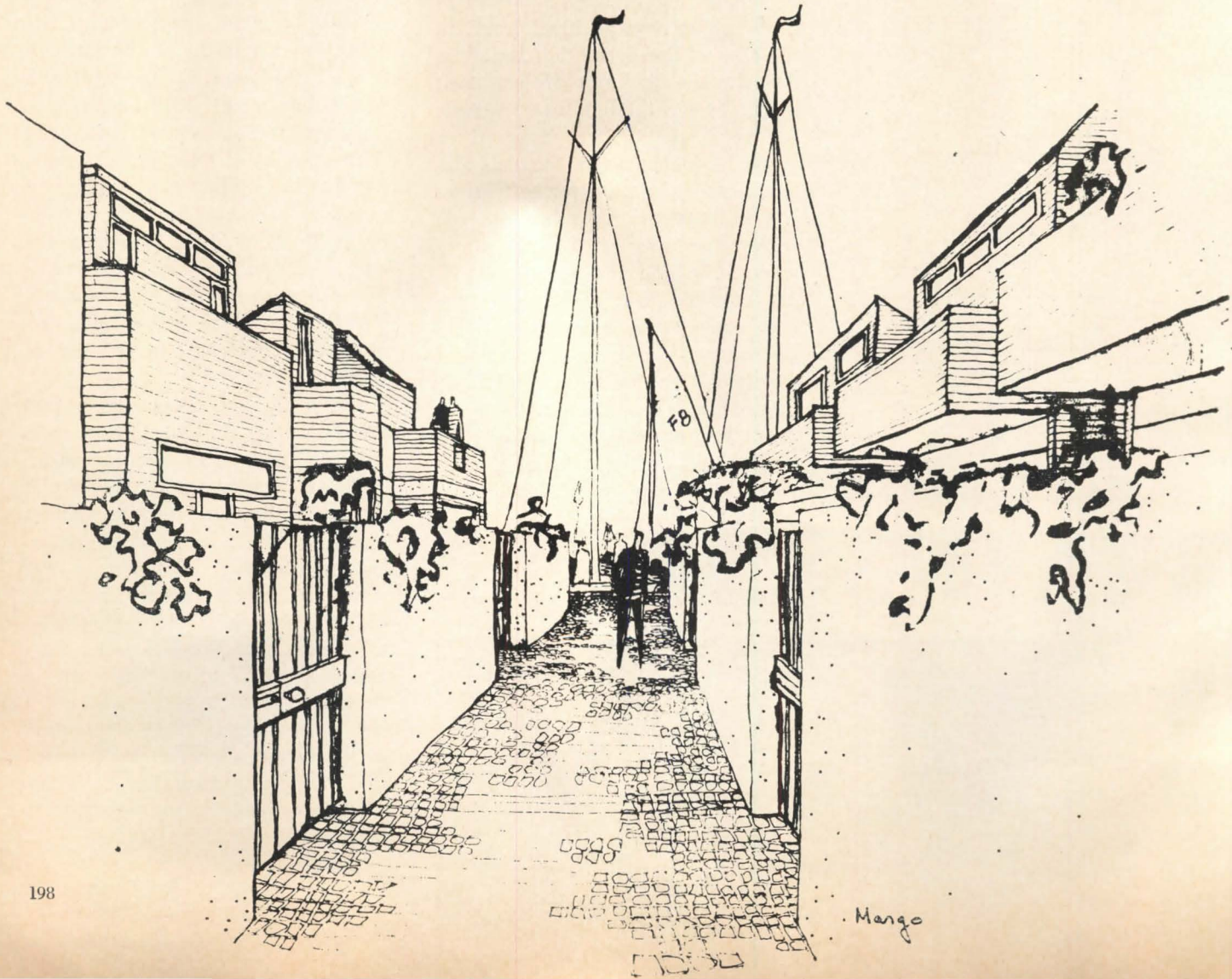


VENICE PRESERVED



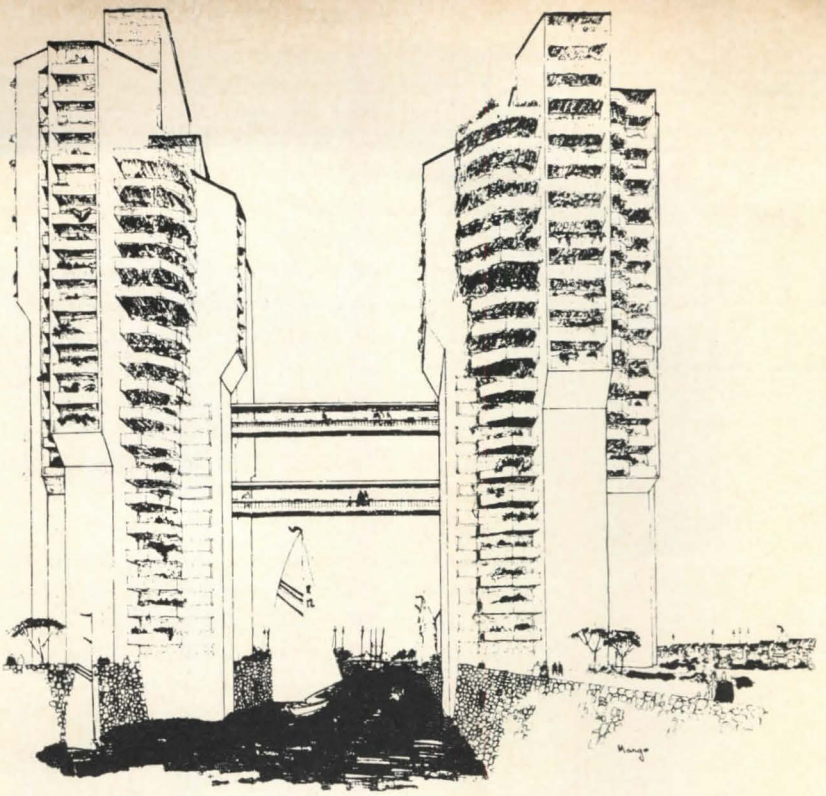
"Venice, U.S.A., Venice West, a horizontal, jerry-built slum by the sea, warm under a semitropical Pacific sun."

LAWRENCE LIPTON: "THE HOLY BARBARIANS"

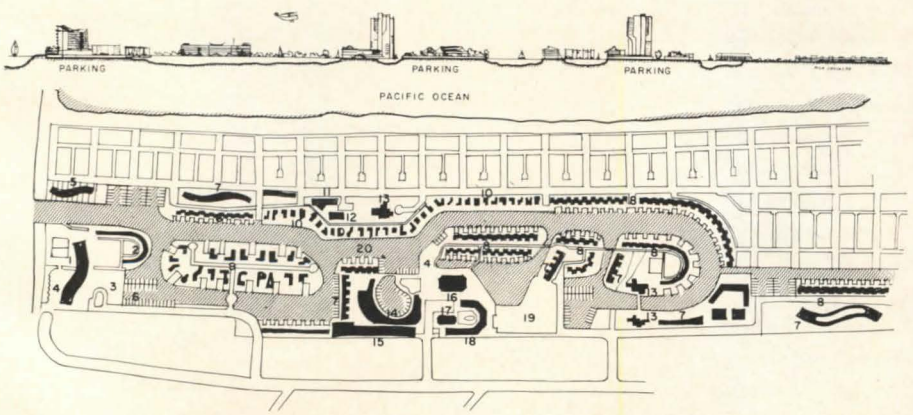


Laid out at the turn of the century as a vain attempt to capture the glories of the Queen of the Adriatic for the burgeoning Pacific Coast, Venice, California, gave off a fitful glare before subsiding into the mouldy state of desuetude which grips it today. A brief, if somewhat unkempt, renaissance came a few years ago when the area, which is part of Los Angeles these days, was discovered by the beats, who moved into its many deteriorating structures and added life to its waterways and boardwalks.

Now, under the sponsorship of J.H. Blitzer, Jr., of Integrated Ceilings, Inc., a plan has been advanced to the city authorities for the rehabilitation of part of Venice as a marina community of diversified housing and building uses. Benjamin A. Gingold, Jr., of Gingold-Pink, designers of the scheme, says that it will upgrade a desperately rundown section, "one of the very last large units of undeveloped waterfront land in the central Los Angeles area which can be made into a controlled environment community without displacing anybody." The 74.6-acre site under consideration, just down the coast from where the beats and bird-doggers congregate, is sere and desolate indeed (see snapshot). Gingold states that "our plan, besides providing obvious aesthetic and romantic advantages, allows for far greater open space, more functional use of the waterways for pleasure craft, and a variety of land uses to avoid the dormitory monotony of a tract, all without diminishing but rather potentially increasing the taxable density of the area." The city has its own plat-plan of narrow waterways and tiny lots on square blocks on the books; Blitzer and Gingold hope to interest officials in their scheme as an imaginative alternate. No official sanction has been given at this writing, however. We would hope that, despite the scarcity of votes in Venice, Los Angeles leaders will look to the future and contemplate this and other plans with sympathy and action. Too bad similar ameliorative plans are not in effect for the Watts area.



Sketches by Margo Heymann and Richard Donahue



(1) Hotel (2) Hotel guest houses (3) Hotel guest rooms (4) Restaurant (5) Yacht club and guest rooms (6) Marina (7) Low-rise apartments (8) Row houses (9) Estate homes (10) Industrial houses (11) Commercial shops (12) Church (13) High-rise apartments (14) Commercial shops with bachelor apartments over (15) Commercial shops with apartments over (16) Theater (17) Bank (18) Gallery with executive suites (19) Beach and recreation (20) Pedestrian and vehicular tunnel (P/A redrawing of Gingold plan).

Preliminary plans and design call for a hotel, hotel guest houses, restaurants, yacht club, marina, church, theater, bank, appropriate commercial provisions, plus housing in row houses, "estate" homes, individual houses, "bachelor apartments" above shops, and high-rise apartments (see site plan). The high-rise buildings could be of particular interest. Gingold, describing their structure, says that "the loose sand will be stabilized by chemical injection to become sandstone with a bearing capacity of over 100 lb per sq in, which in turn will support a concrete raft foundation. Superstructure is conceived in structural steel as a rigid frame figured by digital computer for vertical and lateral loads."

Even granted success in convincing the city of the value of their plan, Gingold and Blitzer will undoubtedly have to go through many redesign stages on details. In early sketches, however, it looks as though they might recapture some of the "aesthetic and romantic advantages" that Kinney, the developer who wanted a second Venezia, would have appreciated. And perhaps somewhere there might be a sun dial bearing the inscription William Hazlitt found on one in the original Venice in the last century: *Horas non numero nisi serenas* ("I count only the sunny hours").—JTB

MECHANICAL ENGINEERING CRITIQUE

SUDS PUT OUT THE FIRE

A high-expansion foam that was originally developed for fighting fires in mines has been adapted for protecting an aircraft hangar from fire without damaging planes or equipment with water. The foam protection could also be used in other types of buildings.

The success of the foam results from its high foaming capacity in which 1 gal of water generates 1000 gal of bubbles. This 1000-to-1 ratio compares dramatically with the 10-to-1 ratio of conventional protein, fire-fighting foam.

The foam-generating equipment, installed in the fire protection system of the North Central Airlines Hangar Building at Detroit's Metropolitan Airport, can fill the 38,400-sq ft hangar with 1,400,000 cu ft of foam to a height of 36 ft in less than 12 minutes. Automatic devices that sense abnormal heat increase operate the foam generators, open roof vents, start the smoke control exhaust fans, and transmit a fire alarm signal to the airport fire department.

Foam discharge is delayed 30 seconds while evacuation sirens warn occupants to leave the fire area. Manual "override" controls can start the system in the event of failure of the automatic controls, or stop it if the fire is small and controllable by other methods.

The high expansion foam is created by wetting a nylon net with a mixture of water and a special detergent soap concentrate. A large blower directs an air current through the net, producing an avalanche of foam.

Suds, which blanket the fire, act on it in several ways:

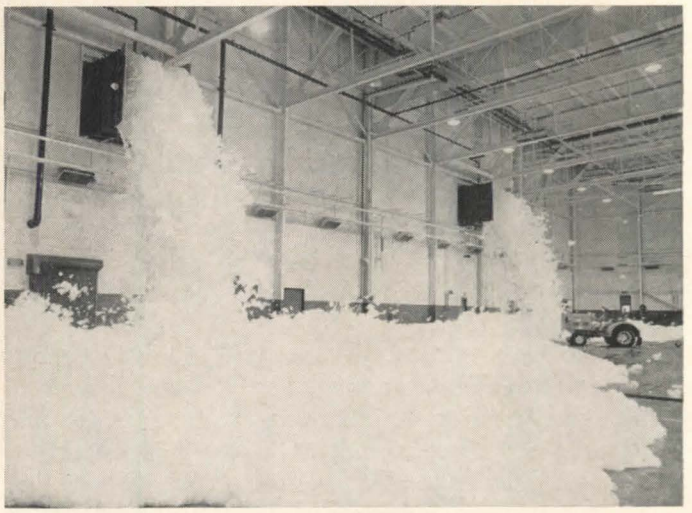
- The water in the suds converts to steam, absorbing the heat of the fire.
- The expansion of the foam into steam reduces the oxygen content to about 7 per cent, which is insufficient to support active combustion.
- A cooling effect is achieved by the wetting action of the breaking bubbles.
- The movement of air currents toward the fire to replace the rising hot gases draws the foam to the center of the fire, where it blocks the air flow and cuts off the supply of oxygen.

The fire thus contained and diminished can be approached by firemen for further control. Men advancing through the cooler sections of the foam are safe, because the foam in these areas is 99 per cent air and can support human life.

Aircraft are not harmed by the foam. Delicate machinery that might be injured by high-velocity streams of water is undamaged and left quite clean when the foam is rinsed away. After all, it *is* a soap.

The structure—in the case of the hangar, an open steel frame with metal roof deck—is protected from excessive temperatures that might weaken it and cause it to collapse.

The Detroit hangar was designed by Albert Kahn Associated Architects & Engineers, Inc. Walter Kidde & Co. supplied the foaming equipment.



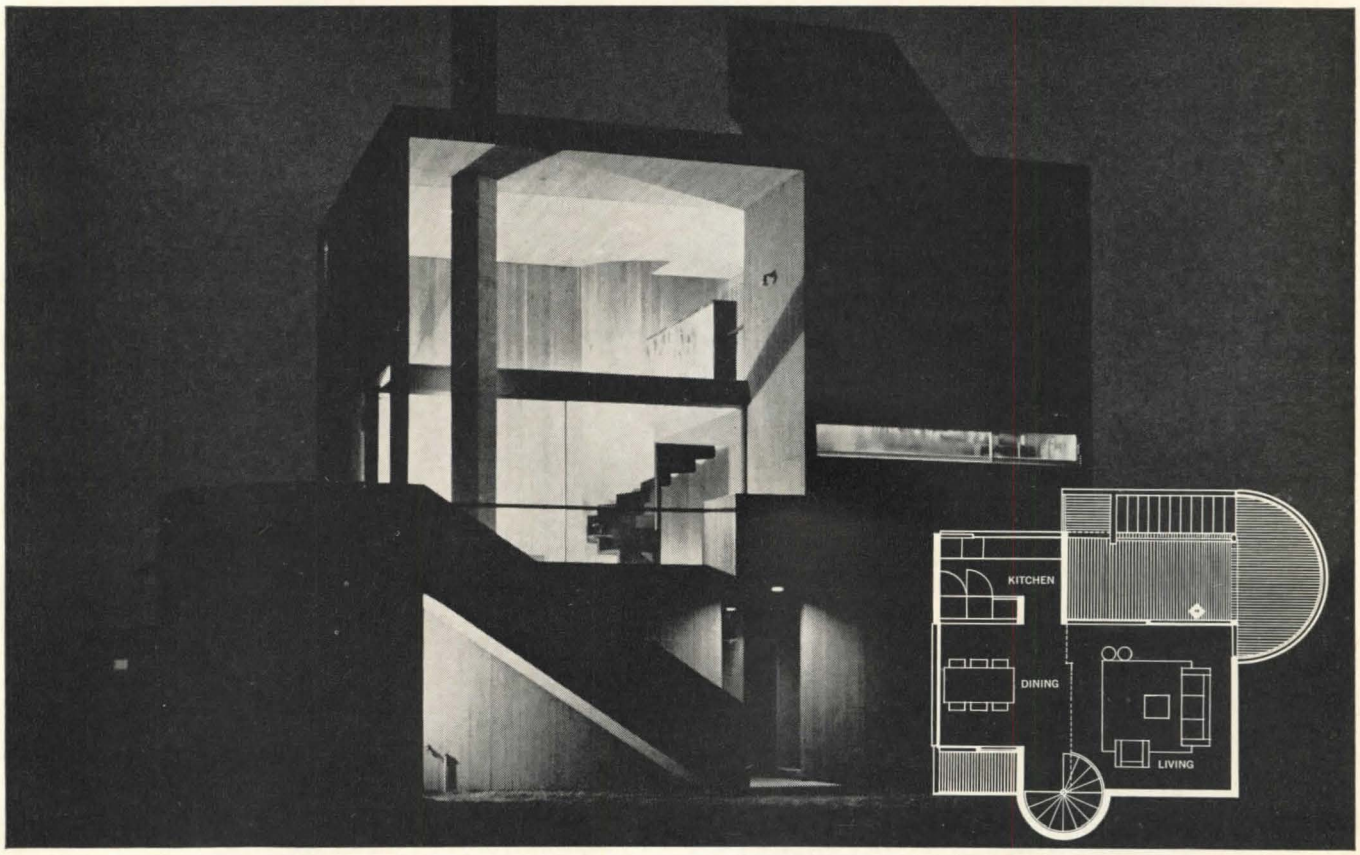
BY WM. J. McGUINNESS

A high-foaming detergent protects an aircraft hangar from fire damage. McGuinness is a practicing mechanical engineer in New York City.



DESIGNER/DALE E. JOHNSON

Create an "escape home" of any design... Western Wood will shape up to it.



ARCHITECTS/GWATHMEY & HENDERSON
PHOTO/DAVID HIRSCH

Whether it's for a year round retreat or a week-end hideaway, Western Wood invites freedom of design. It can be the heavy, brawny beams found in an architectural A-frame, or exterior texture for an "escape home" created around other basic geometric forms.

Western Wood is the natural material for other parts of the second home.

Decks of wood stay cool and comfortable and stand as an open invitation to outdoor living. The horizontal and vertical paneling shown surround the occupants with the natural warmth of wood and offer visual interest inside on a foggy day outside.

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SPECIFICATIONS CLINIC

AUTOMATE OR SUFFOCATE

BY HAROLD J. ROSEN

Unless the specifier and architect want to be buried under an avalanche of information, they must look to the computer and other electronic retrieval systems for help. Rosen is Chief Specifications Writer for Skidmore, Owings & Merrill, New York.

Space-age techniques for preparing construction specifications was the topic of the Construction Specifications Institute's tenth annual convention in Boston this May. The panel, consisting of individuals from leading industries associated with the development of computers, automatic typewriters, copying machines, microfilming, and search units, discussed the attributes of their equipment as an aid in storing and retrieving information, and in the production of specifications.

It is increasingly evident that information on the tremendous volume of new architectural materials can be kept manageable and accessible only by storing it in the memory of computers or some less sophisticated type of search unit. Reliance on the human mind to absorb and commit to memory thousands of bits of information and to recall this data is virtually impossible. Filing cabinets are likewise becoming inadequate.

Added to new product information is the growing accumulation of data on the interaction of new materials with each other, and with more familiar products. How do we guard against a materials failure due to interaction?

Still another problem is the host of information relating to details that must be shown on drawings. What rules does one follow in detailing and specifying new materials?

While all this information exists somewhere, how does one find it quickly? In simpler times, it was easy to remember that copper and steel should be insulated from one another to prevent electrolysis and corrosion. Today, the specifier must take literally hundreds of precautions in the mating of dissimilar materials. To avoid disaster, existing information must be communicated to the user.

The Hardware

The devices that were exhibited and that are purported to solve the problems of searching for information included the complex computer and a relatively inexpensive machine that uses a series of punched cards. This latter device, manufactured by Jonker Business Machines, Inc., narrows the search for information by superimposing punched cards over one another and then placing them in front of a light source that filters through the remaining openings to pinpoint the needed documents.

For reproducing specifications, manufacturers of copying devices demonstrated the use of xerographic equipment. If one could use a previous specification almost intact, with only minor changes, it is conceivable that slight corrections could be made and the specification reproduced. Or reproductions could be made from a master multilith. However, this type of equipment, as far as specifications are concerned, has limited application.

Convention delegates were shown how to use an automatic typewriter in the actual preparation and production of specifications. The first step in this method is to prepare a master specification, which is reproduced on a magnetic tape and is edited by the specifier to suit the job condition. Using the automatic typewriter, the typist changes the magnetic tape as called for by the specifications writer. The advantages of this system are a reduction in typing errors and elimination of proofreading.

The Computer

The most advanced equipment for the production of specifications is, of course, the computer. This highly sophisticated mechanism is reported capable of doing almost anything. Unfortunately, an air of mystery surrounded some of its functions: No one clearly demonstrated how it can produce a project specification from the initial input of raw data to the final specification. Nor was it clearly established what "software" (i.e., input pointers, tapes, and output printers) or "hardware" (i.e., computers) was required.

Changes in computer equipment and computer technology are apparently of such magnitude that before our problems could be solved today with existing equipment, it would be outmoded tomorrow by new devices.

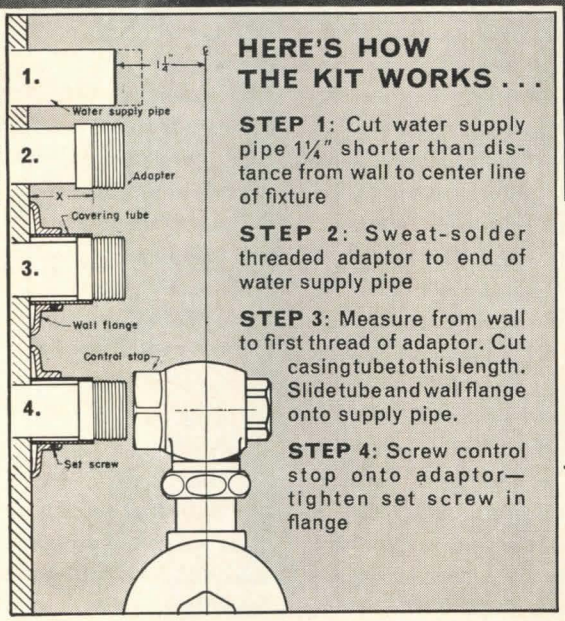
A wide gap exists between the know-how of the computer-equipment manufacturer and the antiquated drafting-room methods of the architectural profession. If the architect is to master and control the massive array of new products and materials, this gap must be bridged.

The Program

The usefulness of a computer depends on good programming, and a great deal of work still remains to be done in setting up programs that will aid the architect. This work should be done by architects, by some national professional group, or by an enterprising commercial establishment that can solve the problem of communication between architect and computer.

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STEP 4: Screw control stop onto adaptor—tighten set screw in flange

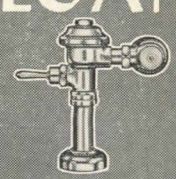
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IT'S THE LAW

CONTRACTOR-INITIATED DAMAGE CLAIMS

BY BERNARD TOMSON
AND NORMAN COPLAN

P/A's legal team discusses a recent case where unanticipated site conditions led the contractor to sue the owner, who in turn countersued and alternatively filed a third-party action against the consulting engineer.

Claims for damages by an owner against an architect or engineer for alleged defective plans or specifications are often engendered by claims of contractors against the owner for extra compensation. When unanticipated site conditions result in a contractor's claim for extra compensation, the owner's reaction may be that the architect or engineer should have anticipated the condition when preparing the plans, and therefore the cost of the extra should be borne by him. This was the issue before the Court of Appeals of Louisiana in *Pittman Construction Company, Inc.* v. *The City of New Orleans*, 178 So. 2d 312 (1965).

In this case, a general contractor sued the City of New Orleans, as the owner, to recover the balance of the contract price, plus the sum of approximately $30,000 as the fair value of extras for remedial pile work, in connection with the erection of an incinerator having a 200-ton daily capacity. It was the contention of the contractor that the extra piling work was rendered necessary by serious latent and unstable subsoil conditions encountered during construction. The City denied the allegations of the complaint, contending that the contractor failed to perform the work in accordance with the construction contract, and counterclaimed against the contractor for the sum of approximately $34,000 for extra costs of remedial work consisting of the removal of floating concrete slabs and the construction of new slabs upon structural supports. The City alternatively filed a third-party action against the consulting engineer who had prepared the plans and specifications for the project, contending that the engineer was liable both for the sums claimed against the City by the contractor and for the sums claimed by the City against the contractor.

The Court, in setting forth the facts, stated that, during the course of construction, and after all piles had been driven in, latent unstable subsoil conditions were encountered and a shear failure occurred that resulted in lateral movement of the soil, causing a displacement of many piles. The construction work was stopped and a new set of plans for remedial pile work was prepared. The contractor was instructed to resume construction at his own expense and his request for a change order was denied. The work was then performed by the contractor under protest.

Subsequently, the contractor expressed concern about possible defects in the design of the floating concrete slabs due to the latent unstable subsoil conditions. The owner and the engineer refused to change the design and ordered the contractor to install the floating concrete slabs without structural supports in strict accordance with the original plans and specifications. After they were laid, the floating concrete slabs began to settle, and extensive damage was done to the masonry walls in other parts of the building. Upon completion of the project, the City refused to accept it because of the damage done by the sunken slabs.

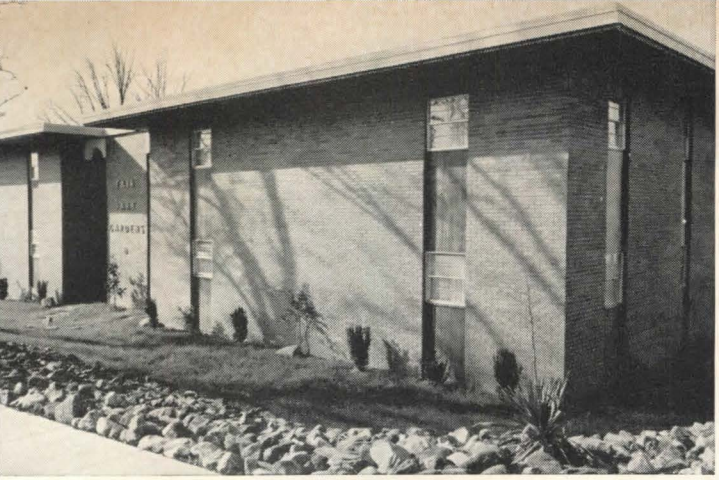
The City requested the contractor to submit a price for the removal of the floating concrete slabs and installation of new slabs on structural supports, but the contractor refused to furnish such price, stating that the necessity for the work was occasioned by defects in the plans and specifications and that the remedial work required competitive bidding. The City considered the contractor's refusal to set a price for the remedial work as a breach of contract, and the work was let to another company.

The trial court ruled in favor of the contractor in respect to his claim against the owner, concluding that he had performed the entire project in strict accordance with the plans and specifications, and that the damage resulting from serious latent unstable soil conditions encountered was the result of insufficiency in the plans and specifications. The trial court further awarded judgment in favor of the owner against the consulting engineer for the extra compensation it was required to pay the contractor for remedial pile work and for the cost to the City for remedial concrete slab work. Upon appeal, the Court of Appeals of Louisiana affirmed the judgment of the contractor against the owner, but reversed the judgment of the owner against the consulting engineer.

It is expressly provided under the statutes of the City of New Orleans that a contractor shall not be liable for defects in work that are "due to any fault or insufficiency of the plans and specifications." On the appeal, the owner contended that the contractor had not established that the plans were deficient. However, the Court ruled that proof by the contractor that he had complied with the plans and specifications was sufficient to establish his right to extra compensation.

In reversing the judgment against the consulting engineer, the Court refused to charge him with liability for failure to anticipate unusual soil condiitons, pointing out that expert witnesses had testified that the design was in conformity with good engineering practice. The Court, in defining the appropriate standard of professional performance, said:

"The test is whether he performed his service in accordance with the skill usually exercised by others of his profession in the same general area; and the burden of proving he did not, is upon the party making the charge . . . in this case the City, third-party Plaintiff. The City has not discharged this burden here because all expert testimony vindicates the professional skill and judgment exercised by (the engineer) in this case."



$24,500 SAVING: 35,400 sq. ft. Fair Park Gardens Apartments, Little Rock, Ark. *Architect:* Cowling and Roark, A.I.A., Little Rock, Ark. *Electrical Engineer:* George Ellefson. *Contractor:* Glenn Henry, Little Rock, Ark.



$20,000 SAVING: 19,000 sq. ft. Den-Mar Nursing Home, Rockport, Mass. *Architect:* Di Meo Associates, Stoneham, Mass. *Engineer:* Joseph Sestito & Associates, Malden, Mass. *Contractor:* Feldman Construction Co., Rockport, Mass.



$10,000 SAVING: 5,200 sq. ft. Home Federal Savings and Loan Association of Cincinnati Building, Wilmington, Ohio. *Architect/Engineer:* Richard R. Grant, A.I.A., P.E., Wilmington, Ohio. *Contractor:* A. P. Eveland and Sons, Wilmington, Ohio.



$13,700 SAVING: 120,000 sq. ft. Wachovia Bank and Trust Co. Building, Raleigh, N.C. *Architect/Engineer:* A.G. Odell & Associates, Charlotte, N.C. *Contractor:* T. A. Loving Co., Goldsboro, N. C.



$10,000 SAVING: 18,500 sq. ft. Gloria Dei Lutheran Church, Forestville, Conn. *Architect:* Jeter & Cook, Hartford, Conn. *Engineer:* James S. Minges & Associates. *Contractor:* Wadhams and May Co.



$63,000 SAVING: 675-student, 60,000 sq. ft. Hampshire High School, Romney, W.Va. *Architect:* Robert J. Bennett, Morgantown, W. Va. *Engineer:* Ballard & Mayfield, Canton, Ohio. *Contractor:* Baker & Coombs, Inc., Morgantown, W. Va.



$13,000 SAVING: 32,000 sq. ft. stamping plant of McIntosh, Inc., Berne, Ind. *Architect:* C. E. Notzel, Detroit, Mich. *Heating Engineer:* Berne Electric Co., Berne, Ind. *Contractor:* David Poor Construction Company, Warsaw, Ind.

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KLINGSOR'S CASTLE

BY NATHAN SILVER

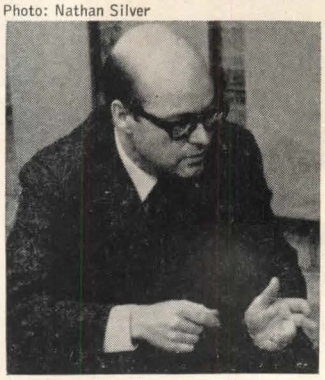
INTENTIONS IN ARCHITECTURE. *By Christian Norberg-Schulz. The M.I.T. Press, 50 Ames St., Cambridge, Mass., 1966. 262 pp., illus., $8.50. The reviewer is an American architect now appointed to the faculty of the School of Architecture, Cambridge University, England. His book, Lost New* York, *will be published in the U.S. this winter.*

Since about 1925, when the great landmark ideas about signs and symbols put forward by Ernst Cassirer began to prevail in aesthetics, an enormous amount of theoretical writing has appeared. Man's unique faculty of creating symbols, and the language, expression, and perception of these as forms in art, have been endlessly explored and discussed. Those who have been chiefly engaged in the discussion are not artists and seldom critics, but usually academics who arrived at the study of aesthetics through a specialization in art history or philosophy. This may explain why almost all current art theory seems remote from giving any clear picture of what is happening in any art. Concerning architecture in particular, modern aesthetics offers many theories, but always in terms of a sort of panaesthetic parliament where all the arts sit together. These theories seldom comprehend current ideals and almost never convey insight into the process of creation.



Norberg-Schulz's Italiesin

Photo: Nathan Silver



Norberg-Schulz at Cambridge

Christian Norberg-Schulz, born in 1926, is a Norwegian who studied architecture under Siegfried Giedion at the Technical University of Switzerland. Later, he spent a year at Harvard, then taught at Ulm, at Yale, in Norway, and at Cambridge. *Intentions in Architecture* was first published in Norway in 1963 in a limited edition; as copies have become available, it has slowly begun to have substantial influence in England. It seems to me that the book's erudition and thoroughness are consistent with the scholarship of his Swiss forebears—Giedion, Woelfflin, and Burkhardt. Since it is founded on modern science and the doctrine of symbolic form, it builds a place for architecture in the modern philosophical landscape. Its scope is thus even wider than that of Giedion's work.

The importance of the book is that it presents architecture with its first modern, fully structured and ornamented theory, comparable to the film theory of Eisenstein, Arnheim, and Kracauer. Architects have often been opposed to an integrated theory of their work. The author believes this is because they misunderstand the methodological insights theory offers and because of their fear of not being spontaneously "artistic." Yet architecture is obviously more than the expression of an autonomous personality. By exploring the nature of the building task, physical form, and the relations between them, plus the techniques of building, a theoretical model can be constructed to shape logical thought, whether analytical or intuitive. Norberg-Schulz, who is an architect, stages no formal argument in making his theory. Using an architect's methods, he does not stop to test every material he chooses to build with. He relies on his own developed judgment, and to a certain extent on the advertisements of manufacturers.

The "intentions" of the title mean two things. They first refer to the attitude of the architect toward the work of his creation, the totality of meaning he invests in the built form. But they also refer to the orientation of the user, and his fullest capacity for knowing what has been created. The architect's intention means design; the user's intention means inclination, ambition, or wish. Norberg-Schulz insists on using "intention" in this double sense because it makes orientation toward an art object clear (the scientist "describes," the artist "intends"). Furthermore, though architectural production and architectural experience are not the same things, the attitudes of architect and user *toward the work* have a similar basis: Both wish to give meaning to the form.

Having expressed as his purpose the discovery of "the definition of our building tasks and the means to their solution," Norberg-Schulz puts the question, Why does a building from a certain time look as it does? ("Why has a building from a particular period a particular form?") Logically related to this is the question, What does "architectural form" mean? To answer the second question, an adequate, well-defined terminology is necessary. To answer the first, he feels that the fullest possible understanding of psychological, social, cultural, and practical circumstances is necessary in order to cover all aspects of architecture as a human product. He therefore turns to many specialists who each supply him with a piece of analytical expertise that fits into his theoretical structure. He incorporates discoveries in perceptual psychology that enable him to appraise intentions toward "objects" (both things and concepts). He looks beyond the somewhat familiar Gestalt laws of Wertheimer and Arnheim to the experimental work of the Swiss child psychologist Jean Piaget, who studied early-acquired schemata (proximity,

Continued on page 214

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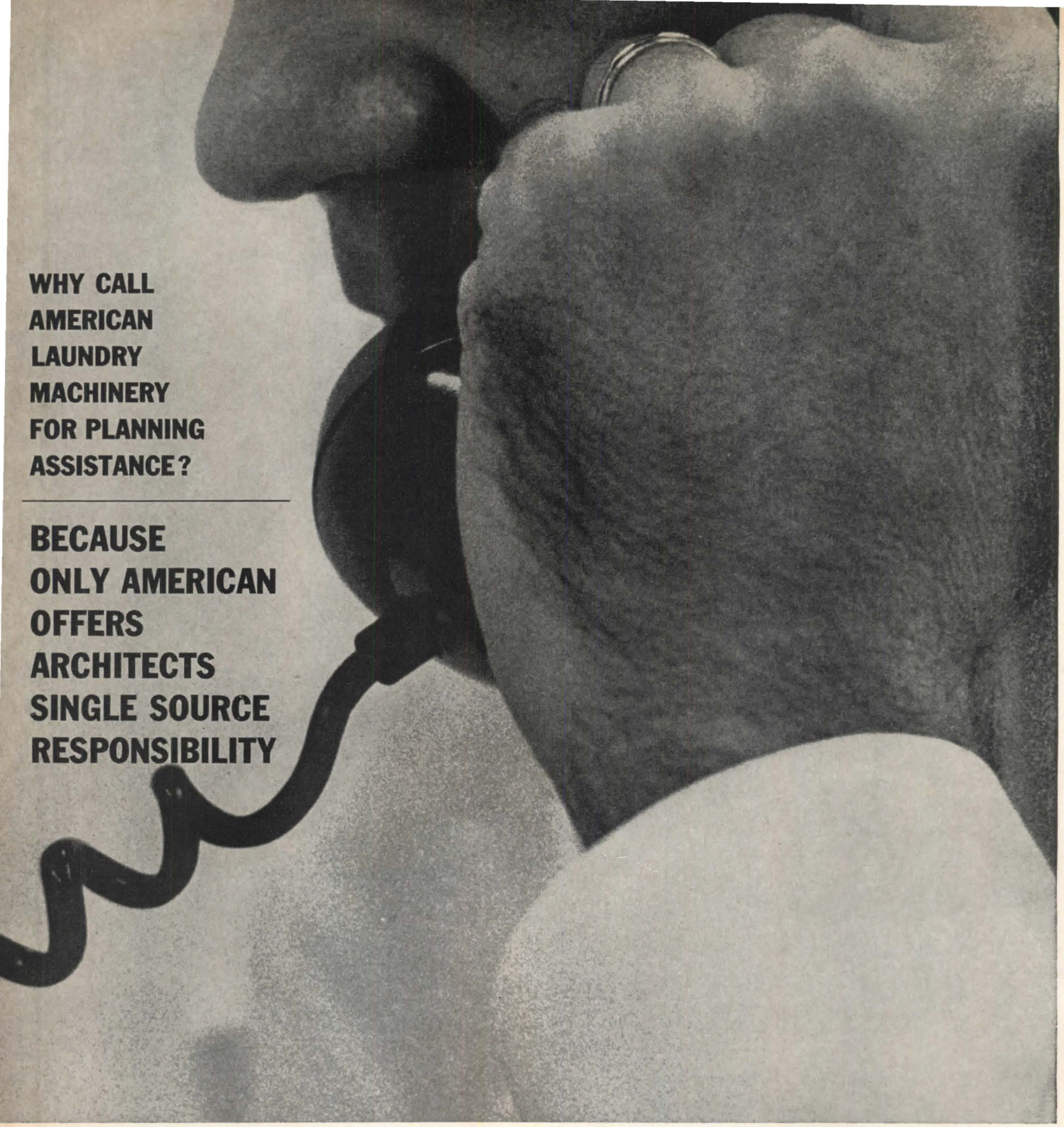
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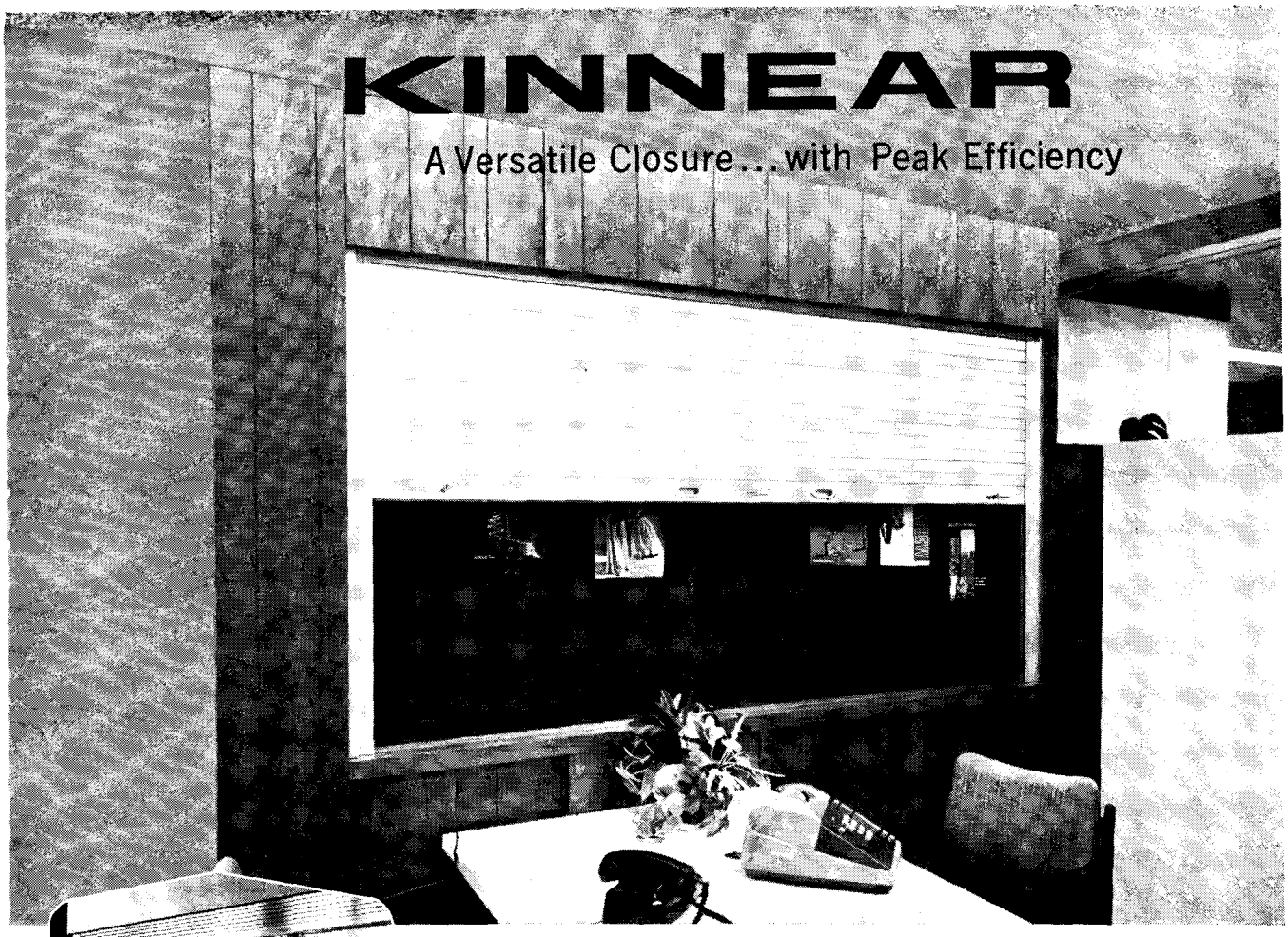
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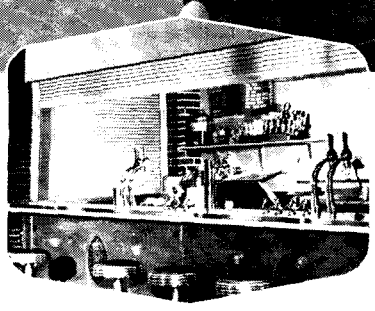
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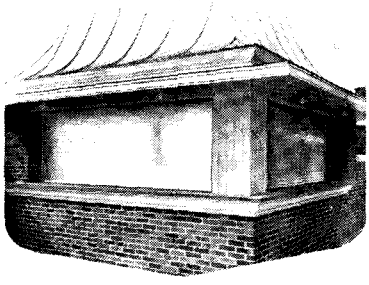
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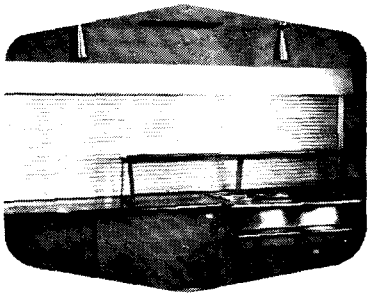
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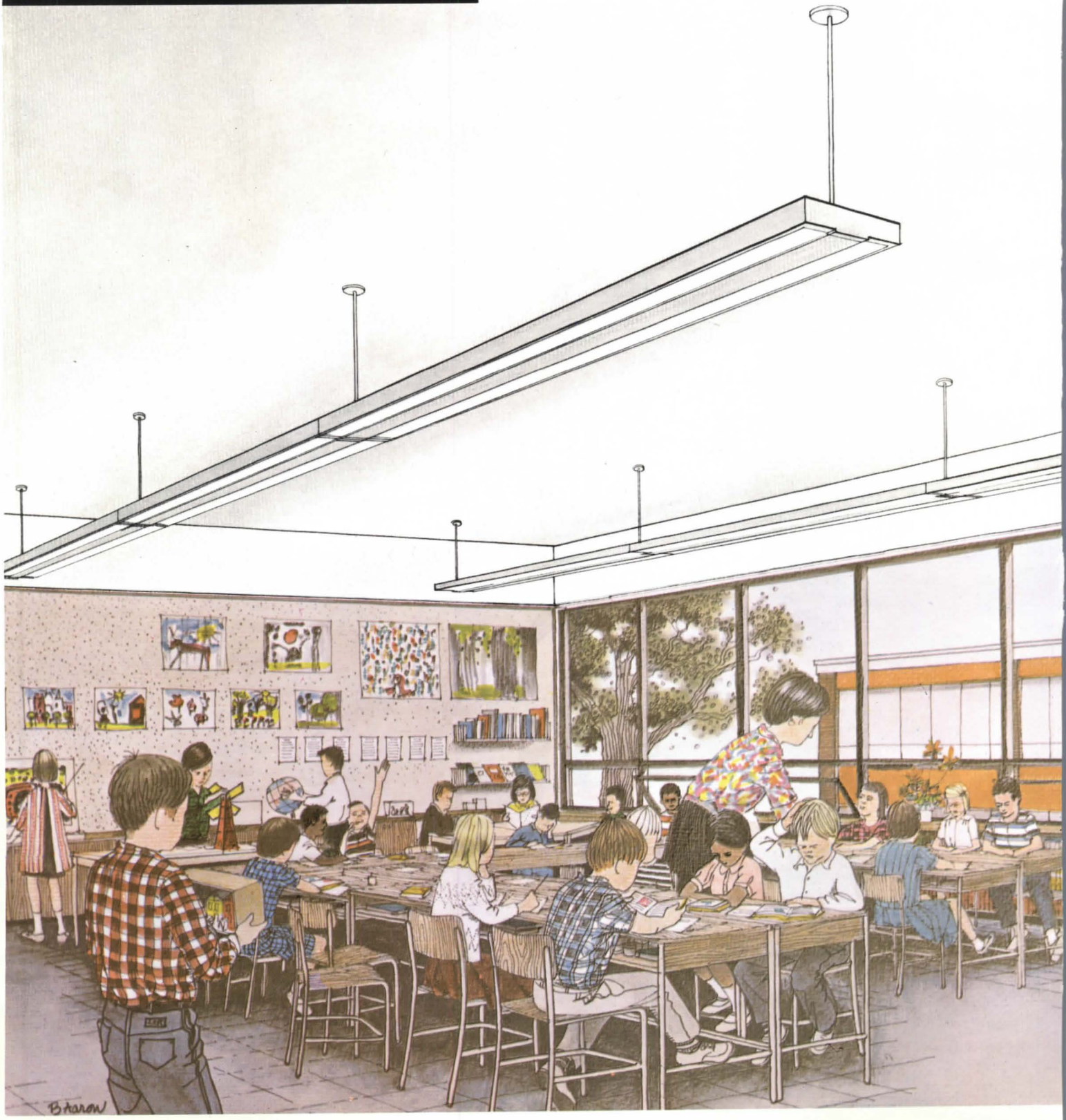
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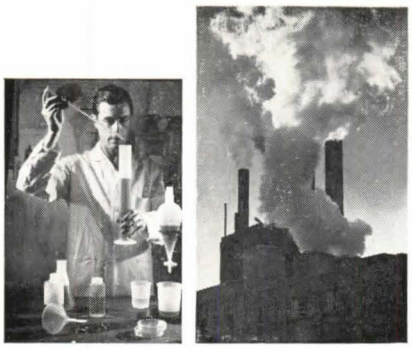
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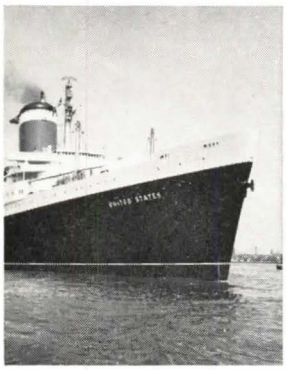
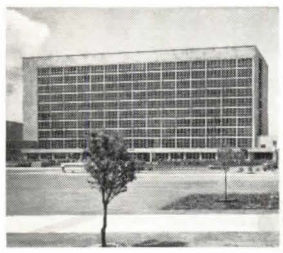
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Continued from page 206

enclosure, continuity, size-constancy). Cassirer's philosophy of symbolism enters the book by way of Charles Morris's "semiotic," a language for talking about signs. The author takes note of concepts of socialization—imitation, identification, and values—and social objects, together with action theory derived from Parsons and Kluckhohn. Norberg-Schulz finally adds his own discussions on culture and construction technology to this pile of theoretical building materials.

Through his insistence on correct terminology, the theory is inevitably driven down to the rock of linguistic philosophy. Wittgenstein discerned the differences in use of language that can clarify and liberate logical thought. Norberg-Schulz's terminology, because it is derived from many sources, builds a highly eclectic but therefore versatile and inclusive theory. If the source elements had been kept clearer, however, it would be less easy to lose track of the referents for his terms.

Architecture always has to do with more than just appearances, and an adequate theory must take account of this, just as an adequate architectural experience does. In a sense, any architecture is like Klingsor's enchanted castle in Act II of *Parsifal:* Its meaning can only be understood in terms of objects, things, or concepts that we believe in, and its power to convince us can be shattered. Klingsor's castle is an illusion, created by mythical objects and dispelled under Parsifal's guileless perception. This might be the architectural equivalent of Axel's castle, Edmund Wilson's famous image for symbolist literature. Both places would make good clubhouses for those who believe, as philosophers now overwhelmingly do, in the largely nonobjective basis for our perception of reality.

A true architectural theory should therefore be as free from formal realism as Klingsor's castle if it is to be versatile. Norberg-Schulz claims that no matter how close a theory is to "architecture itself" (for example, Zevi's *arte dello spazio),* theory based simply on forms is naive and insufficient. He therefore resolves to build a theory that is "empty." Just as the instruction manual of an automobile does not indicate how to get to Chicago, Norberg-Schulz does not indicate how to get to Chicago either —or Taliesin or Chandigarh. His description of architecture is explicitly remote from stylistic or inspirational encouragement. Combining the theory of objects, information theory, and semiotic, Nor-

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berg-Schulz puts together a formal, symbolizing little universe of ideas. This is what he recommends in his theory for architecture as well.

The architectural totality is defined as "a building task realized technically within a style." "Style" is brilliantly defined as "the formal probability-structure," in which separate works can be judged, ranging from eccentric, through daring, to banal. The work of art is "a concretization of an intermediary object," where "intermediary objects" are aggregates aiding the discovery of higher objects. (The concept of "concretization," specifically as the act of creation in art, seems to be pure Norberg-Schulz and is carefully discussed.) He at last says that "as a totality, the work of art concretizes a coherence-system of poles," where "poles" are intentional poles, the objects that constitute the intentional possibilities.

I have been deliberately quoting Norberg-Schulz and using his terminology instead of paraphrasing, because this indicates the nature of the book. It is completely unliterary: that is, its presentation is not in the form of a winning argument, but a cold calculation. While books supported by vast research usually present to readers only the visible tip of the iceberg, this book, with its great bulk of unintegrated notes, is like the massive underside of the iceberg. The reasoning is sometimes obscure and elsewhere redundant, with lucid insights often appearing out of order. Sentences clotted with terms and poor organization of material makes this difficult book an exasperating reading experience. But all this does not mean that *Intentions in Architecture* is therefore sloppy in thinking or confused in principle. The very breadth and inclusiveness makes the book extremely hard to organize, since all systems lead off in all directions, like logical mechanical conduits that cut through partitions, follow hidden tracks, branch out from raceways, appear and disappear, but at last dependably meet, as they should, in many concealed but accessible places where everything finally connects with everything.

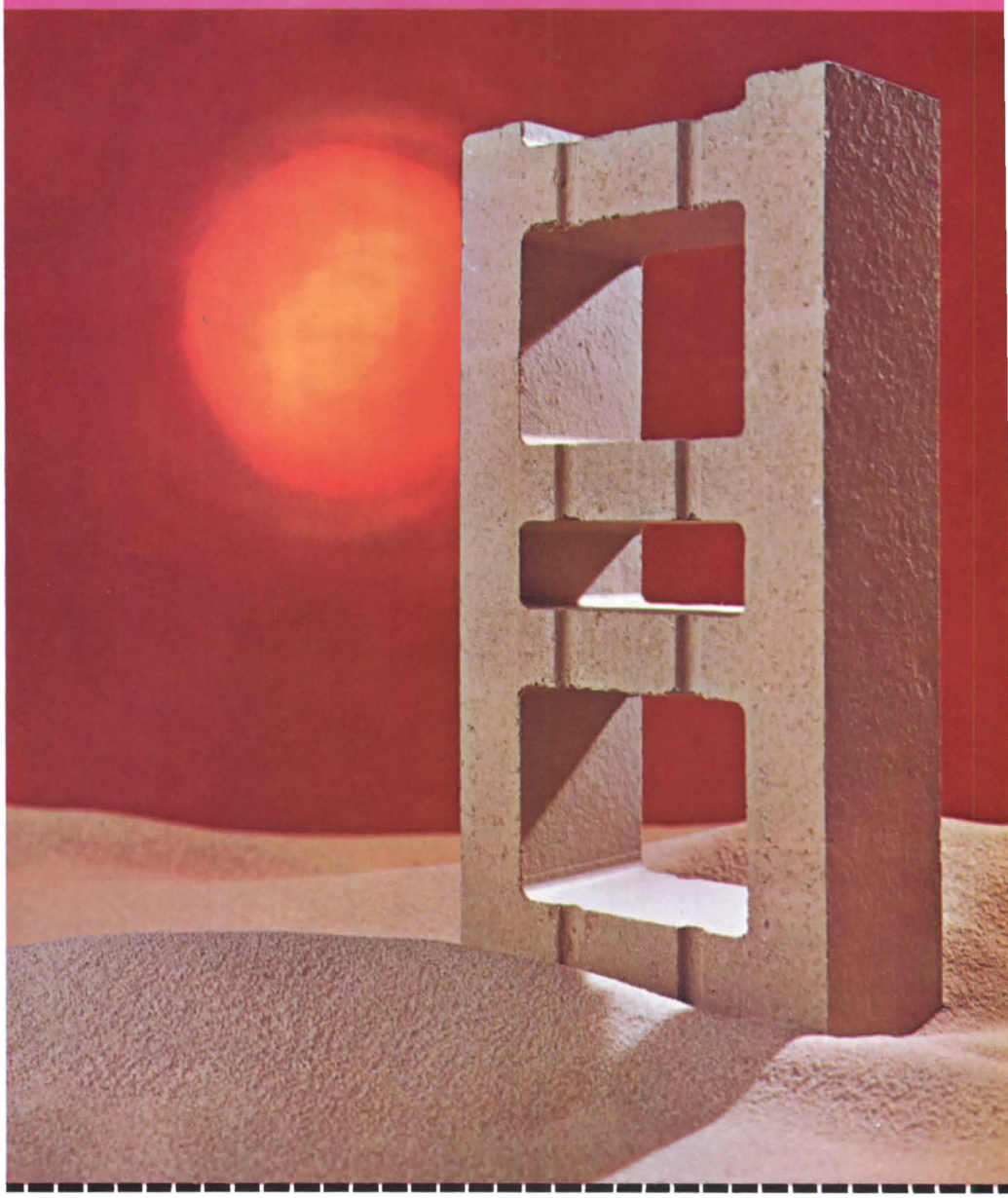
I believe this book is an important, highly perceptive work, but also a somewhat misguided one. "Empty" theory or not, there are strong suggestions throughout about what sort of architecture should be emerging. Norberg-Schulz has his own feelings, which he cannot hide, even though he does not mean to propagate particular solutions but only render an account of possible factors and com-

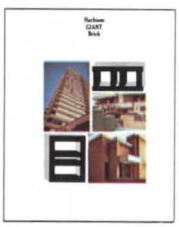
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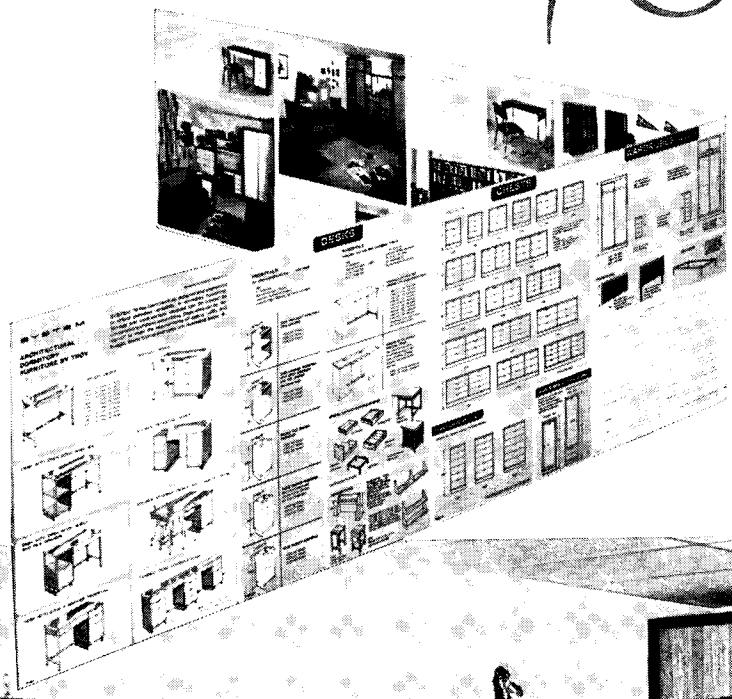
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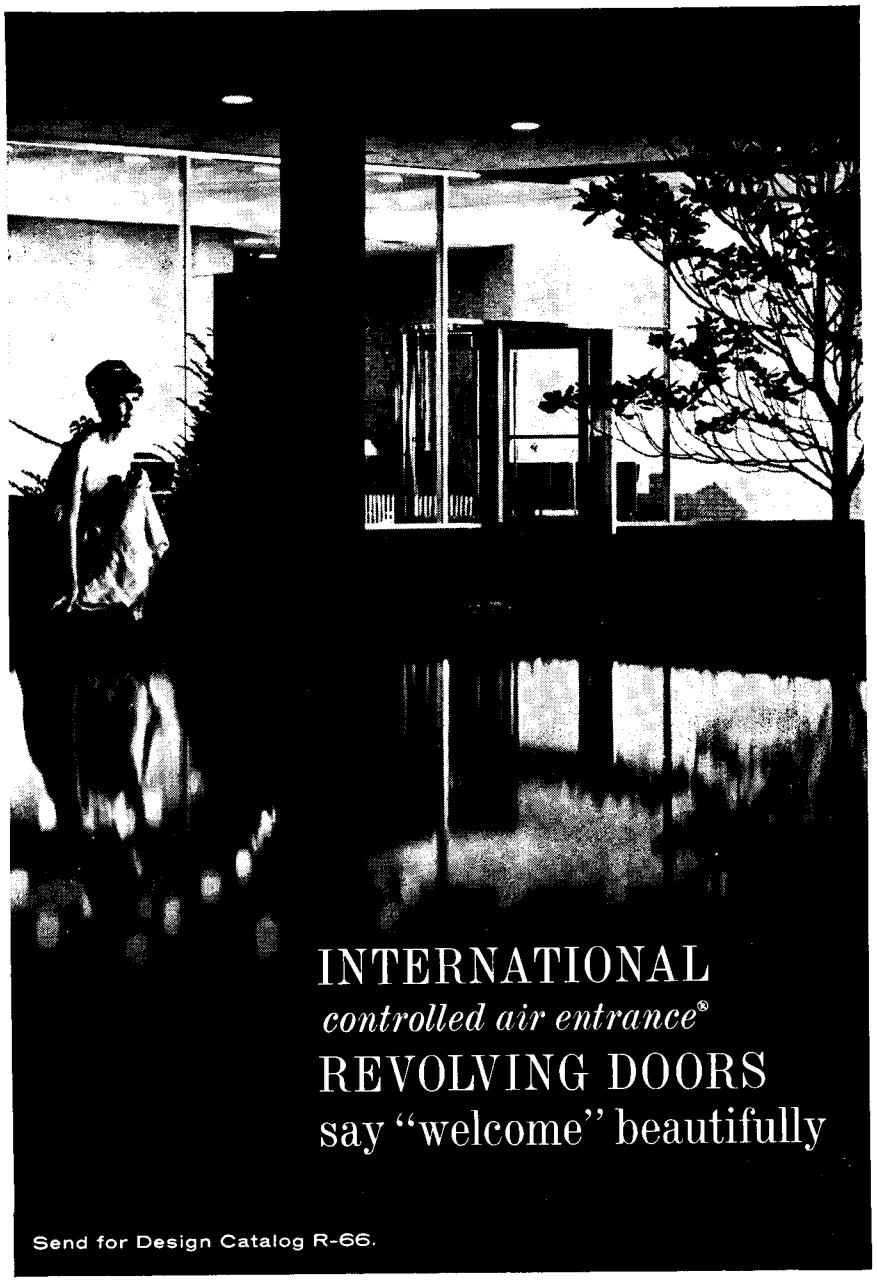
binations. Having taken account of the general *philosophic* proposition of symbolism, he appears to believe this means that *architects should therefore strive to make forms that are unmistakably representational*—or, at least, architects should move quickly to establish a new symbolic language of form. Alberti once dreamed of an architecture where the simplest geometry would be reserved for the most important buildings (circles and polygons for churches, and so on). While it would be an exaggeration to say that Norberg-Schulz is ready to embrace Alberti's wish altogether, he finds it "grand and fascinating, not least in a time when similar forms are employed in connection with widely different building tasks, with visual chaos as a result." Elsewhere, he warns that the architect should "form his buildings in such a way that the perception does not become too difficult." Angry marginal notes sometimes crop up, condemning the shallow content of the man-made modern world. A photograph of the author's own house near Rome reveals an unmistakably formalist building. It is all somewhat reminiscent of the love poems of E. E. Cummings, where the stanzas are set in the form of sex organs. Norberg-Schulz, like Cummings, wants his symbols out where you can see them.

Heavy-handed symbolization might be accepted as the personal taste of the author, without consequence to the over-all theoretical performance. But this bias leads him into making a substantial intrusion in one sector of the "empty" theory. It must be due to one's state of mind in theoretic abstraction, since it looks like the same trouble that many academic theorists have: poor information about current ideas in art production.

Two related claims are made. In one, the author implies, like Suzanne Langer, that architecture's "primary apparition" is visual space. In the second, he characterizes architecture as "art" only to be carried away in the old, old transcendental implication of this, so that he must distinguish between elevated and mean works. These are unwarranted conclusions, gratuitously limiting architecture to its role in the past. Peter Collins's *Changing Ideals in Modern Architecture* (DECEMBER 1965 P/A) shows how "ideals"—mainly formal presuppositions that Norberg-Schulz would put among "building tasks"—have served to prefigure style. But more is changing in architecture than ideals. The definition of what architecture is, its very bones and eyes, may be sea-changing into coral and pearls—or, rather, vice-versa, since we now have passed the point where architecture simply overcomes nature: Man-made environment has become dominant and the norm. If this is true, then architecture itself has changed, and its primary apparition ought to be scrutinized again.

It is now worth considering the idea that the primary apparition of architecture is *use*, and the given dimensions of this essence are measured in terms of human adaptability. It may at last be time to come to terms with the classic art-historical assumptions that architecture can be categorized, together with painting and sculpture, as a "plastic" (or "figurative") art, and that the perception of architecture is purely a matter of seeing. I am tempted instead to believe it is *using*—man literally the measure—furnishing the basic materials of this art in his own life patterns and himself embodying new objects that are extensions of his own central nervous system. This needs detailed exposition, which I won't go into here. But this is the sort of quibble that one is likely to

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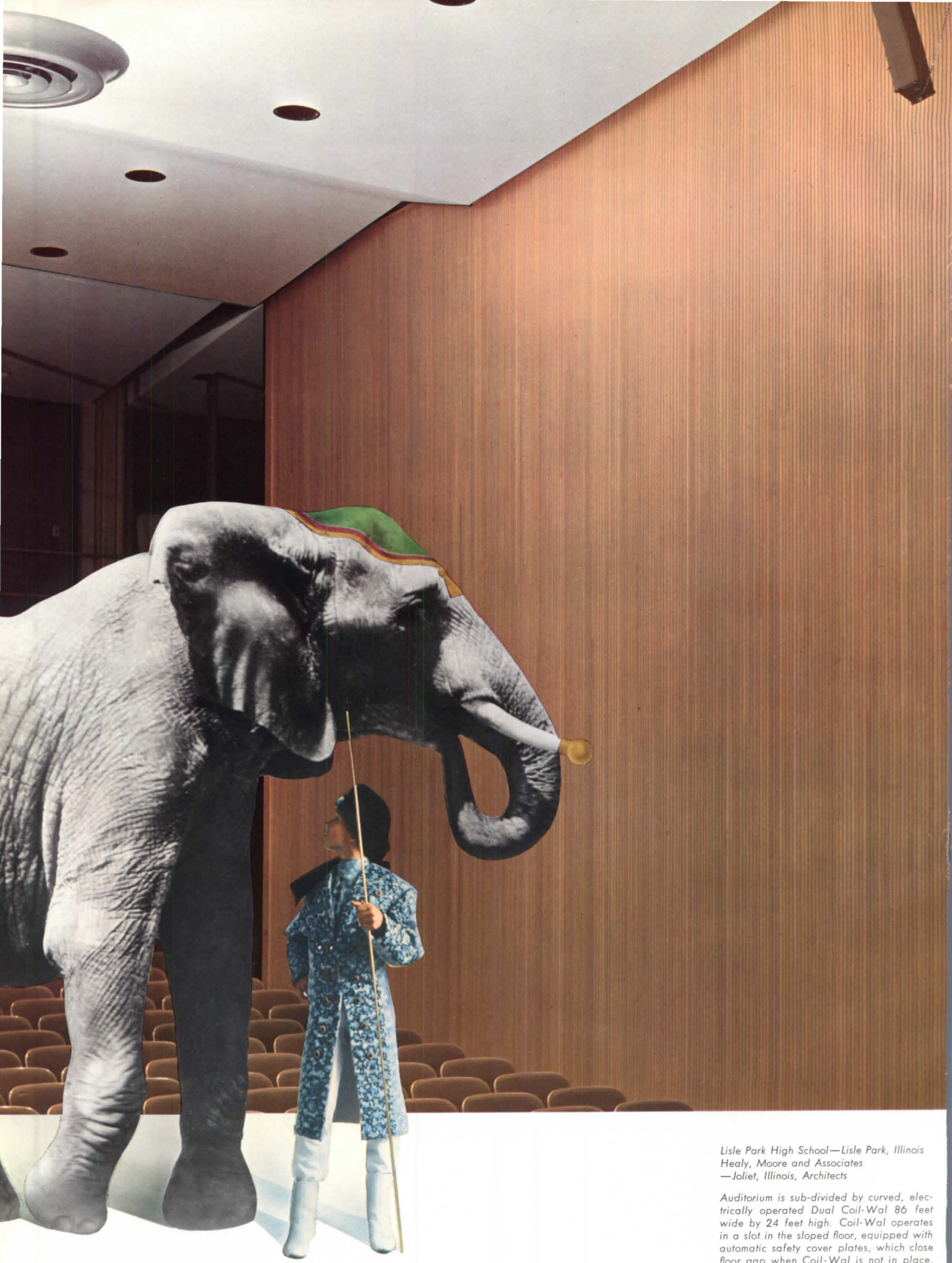


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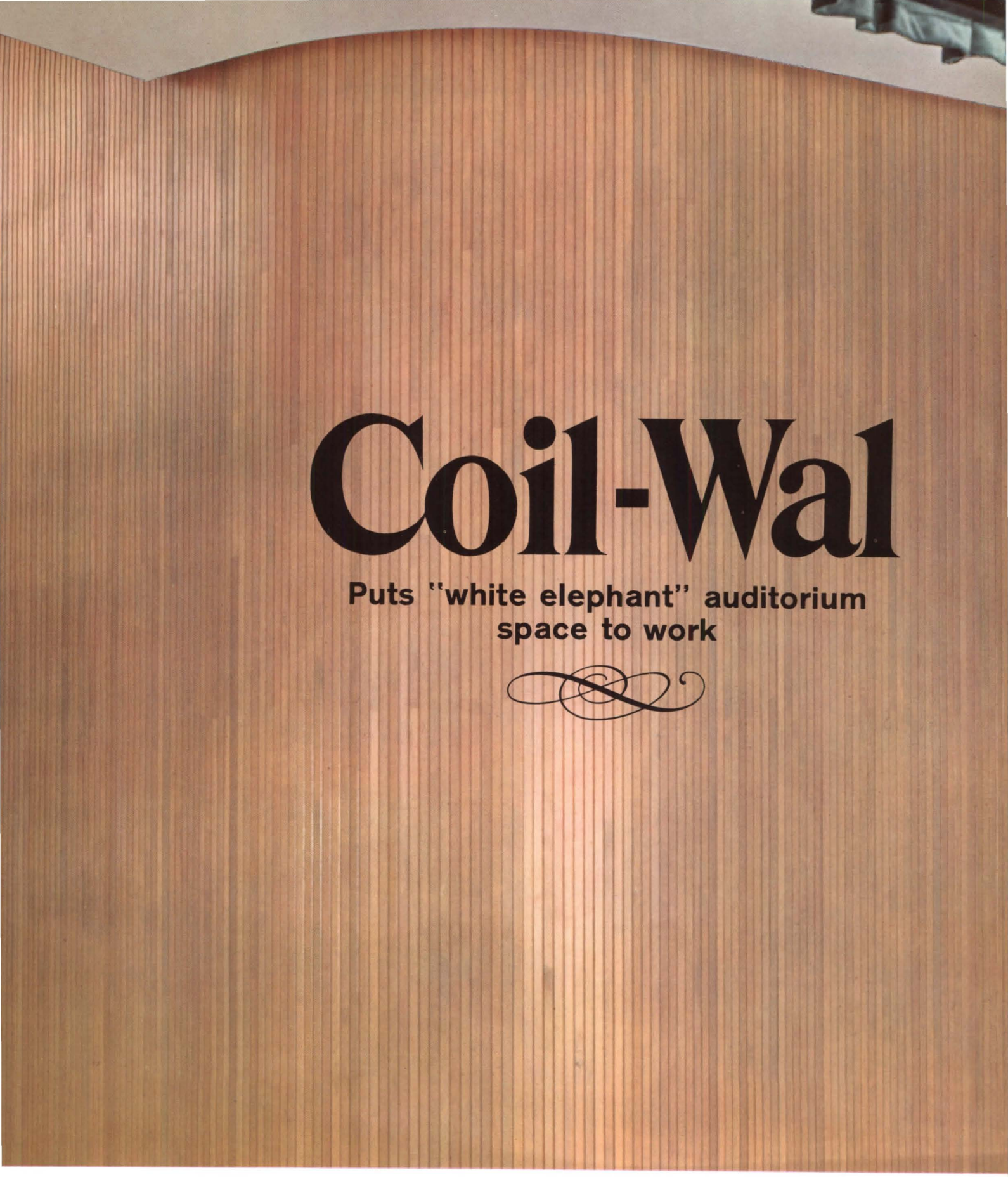
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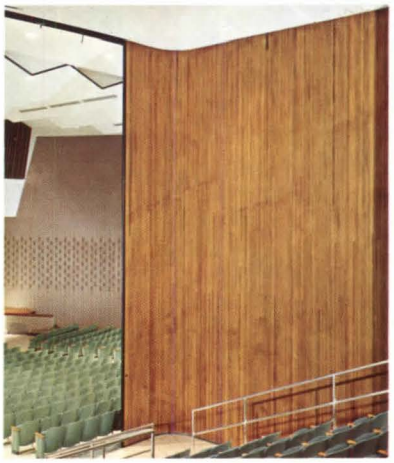


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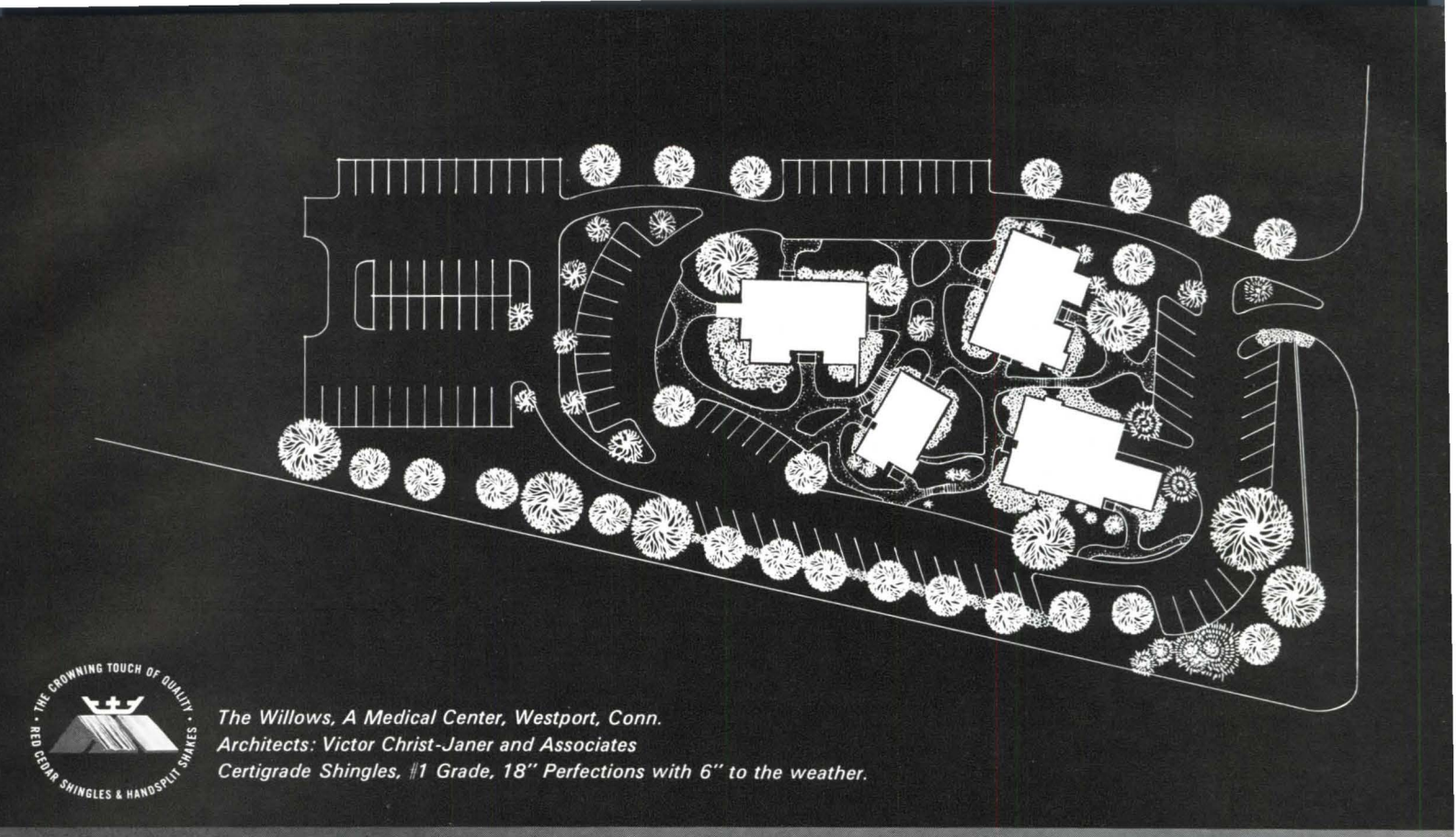
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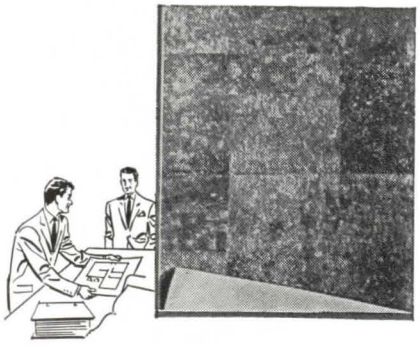
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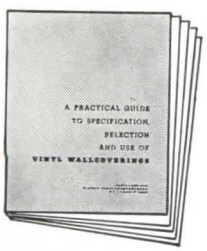
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raise against any aesthetic theory, and the test of the theory's usefulness is really a determination of its elasticity. There is nothing in the logic of *Intentions In Architecture* that forces a predetermination of archiecture as being primarily visual, or as consisting of art and artisanship with consequent high-low forms. Removing these prejudices would leave the theory still workable, truly "empty," and much more receptive to architecture in the way it is now changing. This is exactly the problem that that Norberg-Schulz, a practitioner, might have been most keenly aware of, and I hope he will soon take account of it. It will add to his work's already formidable stature.

BOOK NOTES

Dutch Houses in the Hudson Valley before 1776. By Helen Wilkinson Reynolds. Dover Publications, Inc. 180 Varick Street, New York, N.Y. 1965. 469 pp., illus. $3 (paperbound)

This unabridged reprint of the 1929 edition (complete with an introduction by Franklin D. Roosevelt) surveys the architecture, building materials, social and historical background of Dutch and Dutch-influenced houses in the New York counties of Albany, Ulster, Westchester, and Dutchess. Taking as her ideology that houses "are a record of human society and of the genius of a given community," Miss Reynolds examines 150 houses, dispelling many a misconception with architectural fact.

Early Connecticut Houses: An Historical and Architectural Study. By Norman M. Isham and Albert F. Brown. Dover Publications, Inc., 180 Varick Street, New York, N.Y. 1965. 303 pp., illus. $2.25 (paperbound)

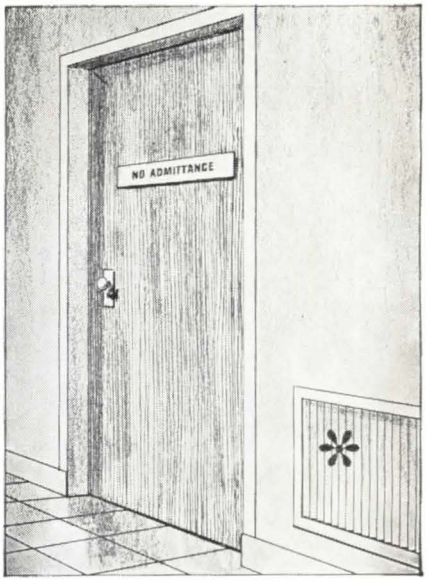
With their usual excellence, Dover has republished this 1900 study of 29 representative dwellings in the Connecticut and New Haven colonies. The houses, built between 1635 and 1750, are treated in detail as to methods of construction, types of building materials, and evolution of architectural features.

ACI Reinforced Concrete Design Handbook: Working Stress Design. Third Edition. American Concrete Institute, P.O. Box 4754, Redford Station, Detroit, Mich., 1965. 271 pp., $4.50.

American Institute of Timber Construction Manual. John Wiley & Sons, Inc., 605 Third Ave., New York, N. Y., 1966. $12.50.

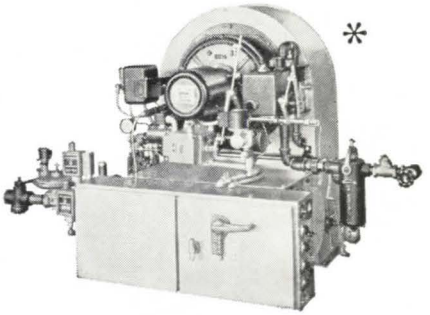
American Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks. Revised Edition. American Society of Mechanical Engineers, 345 East 47 St., New York, N. Y., 1966. 320 pp., $5.20 (members) $6.50 (nonmembers).

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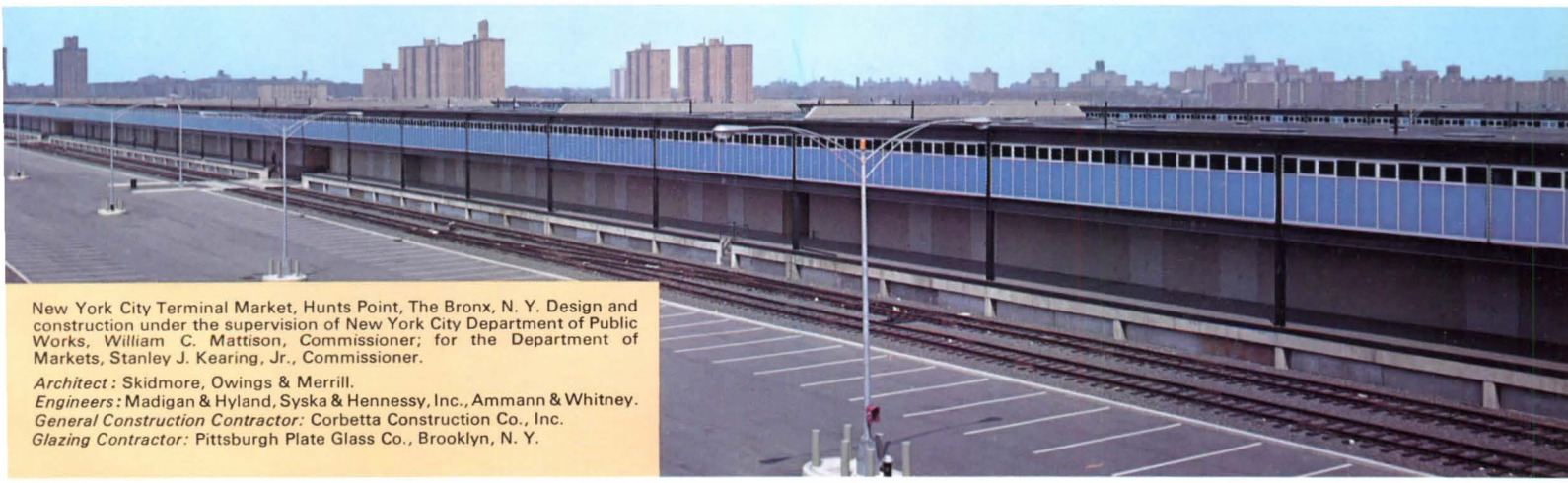
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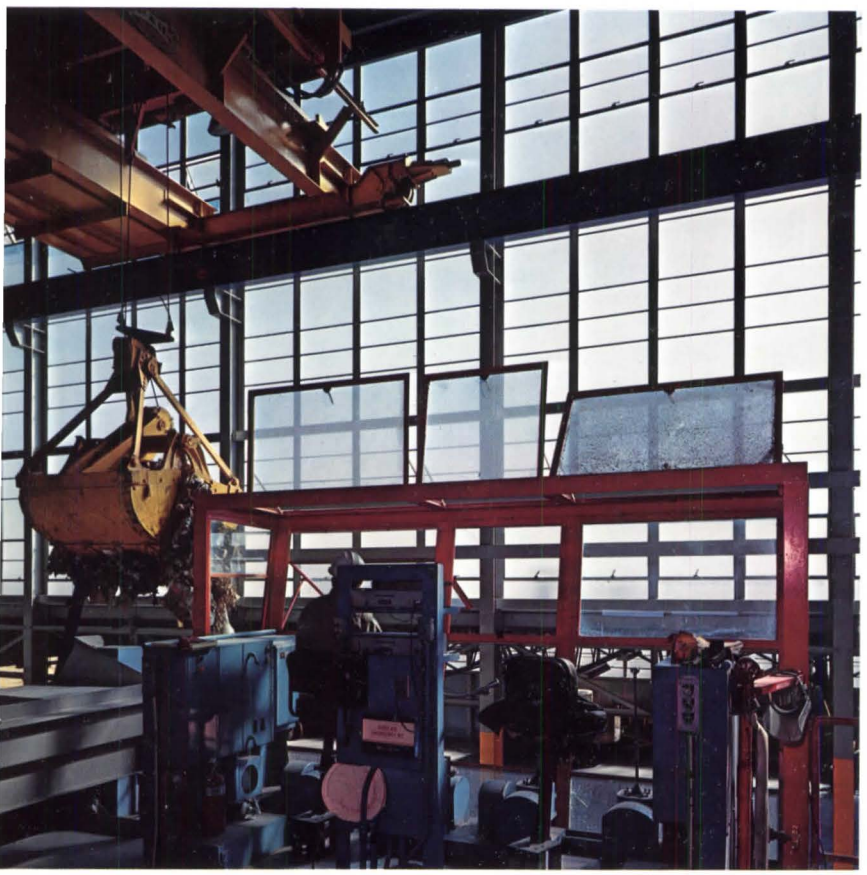
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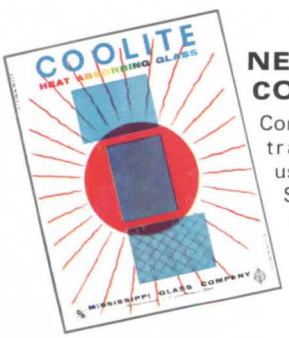
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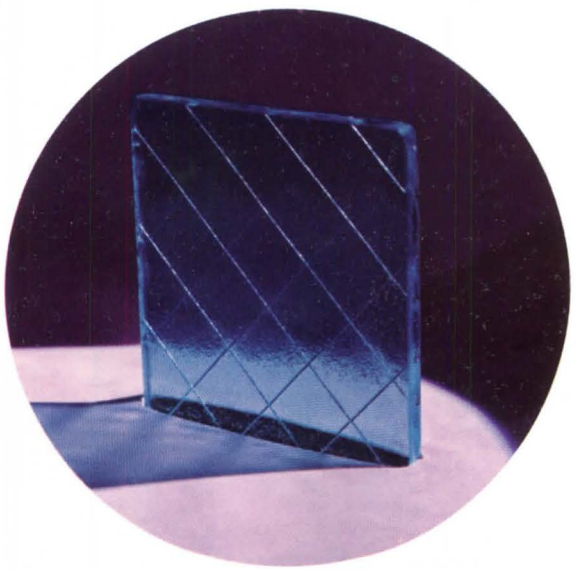
Architect: Jimmy E. Bailey, A. I. A.; *General Contractor:* Page & Wirtz; *Glazer:* Pittsburgh Plate Glass Company.



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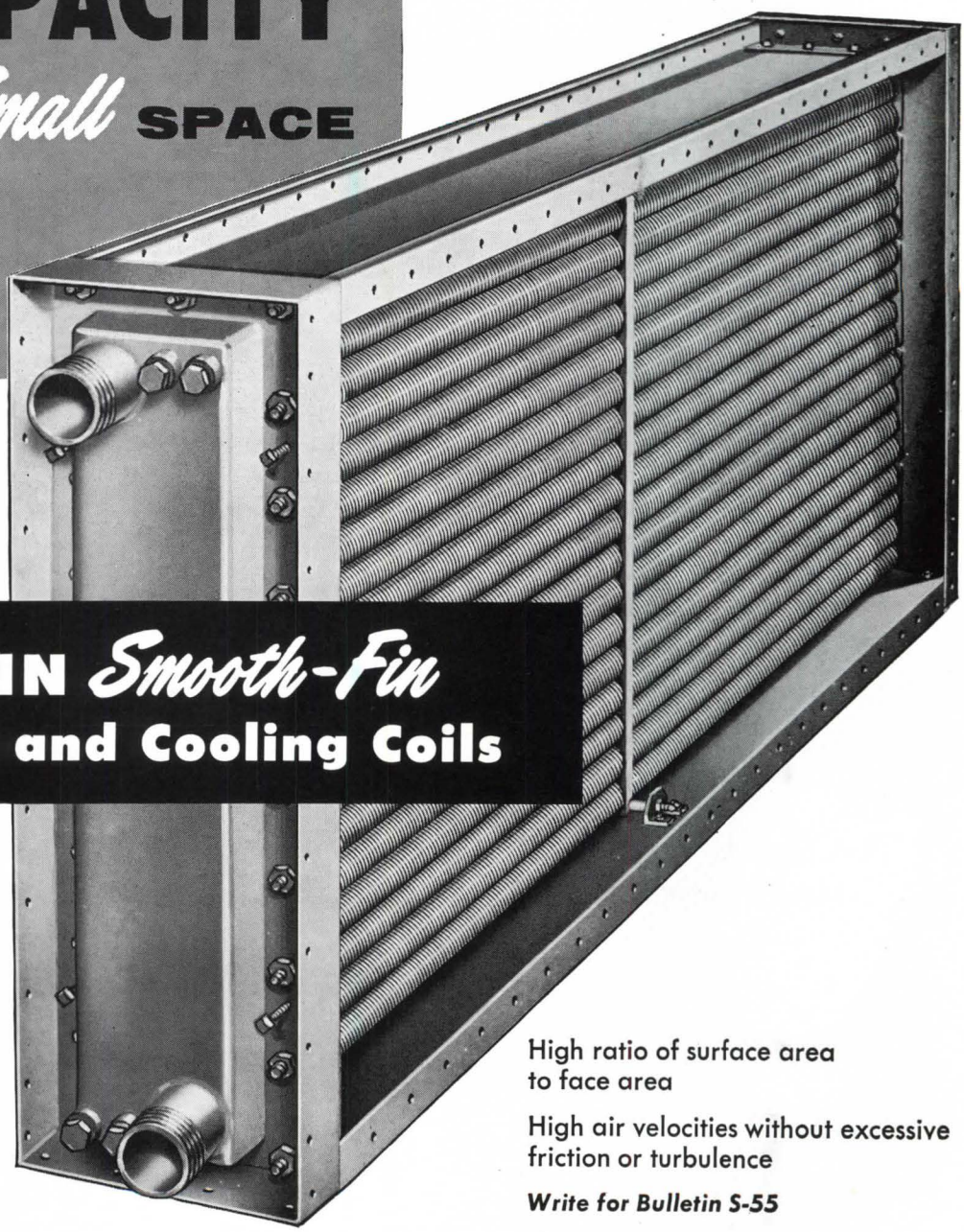
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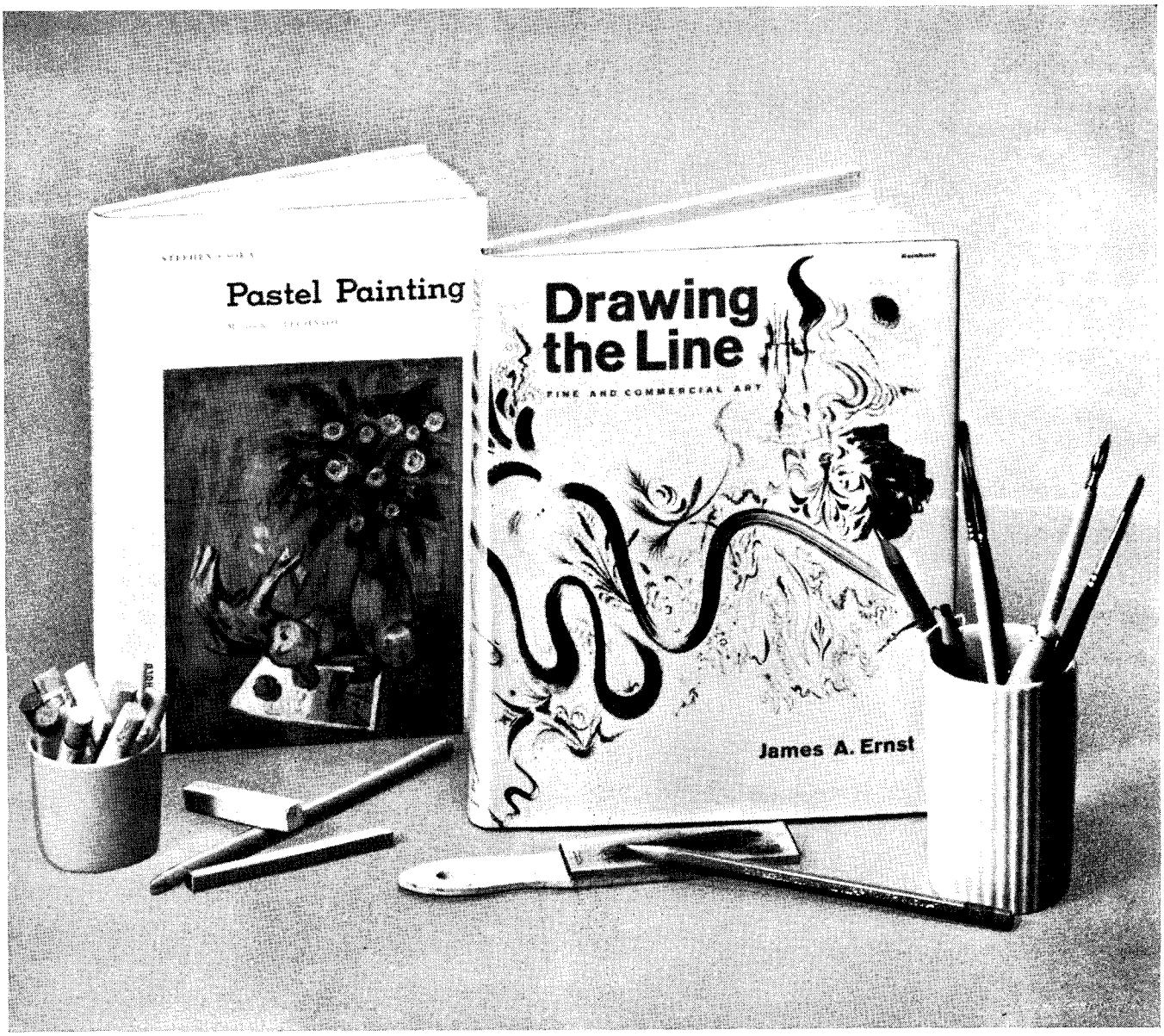
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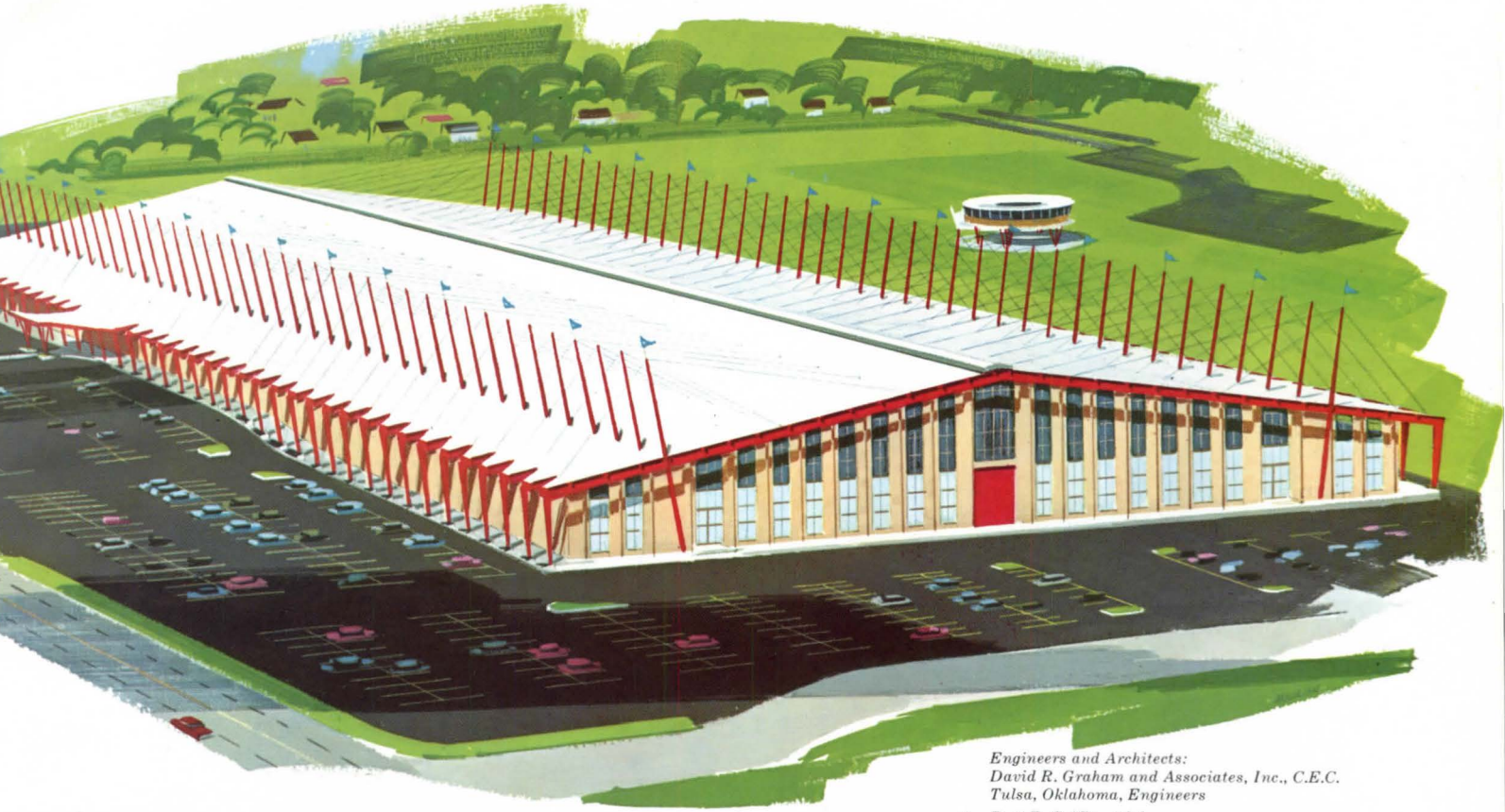
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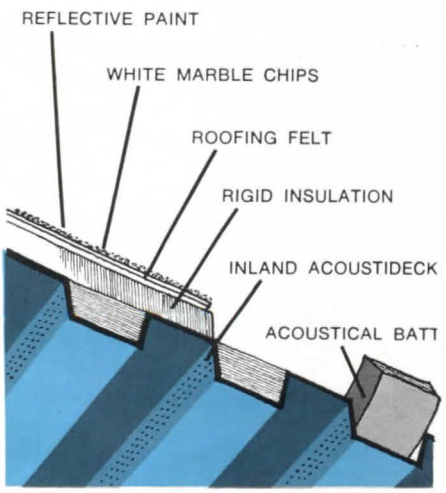
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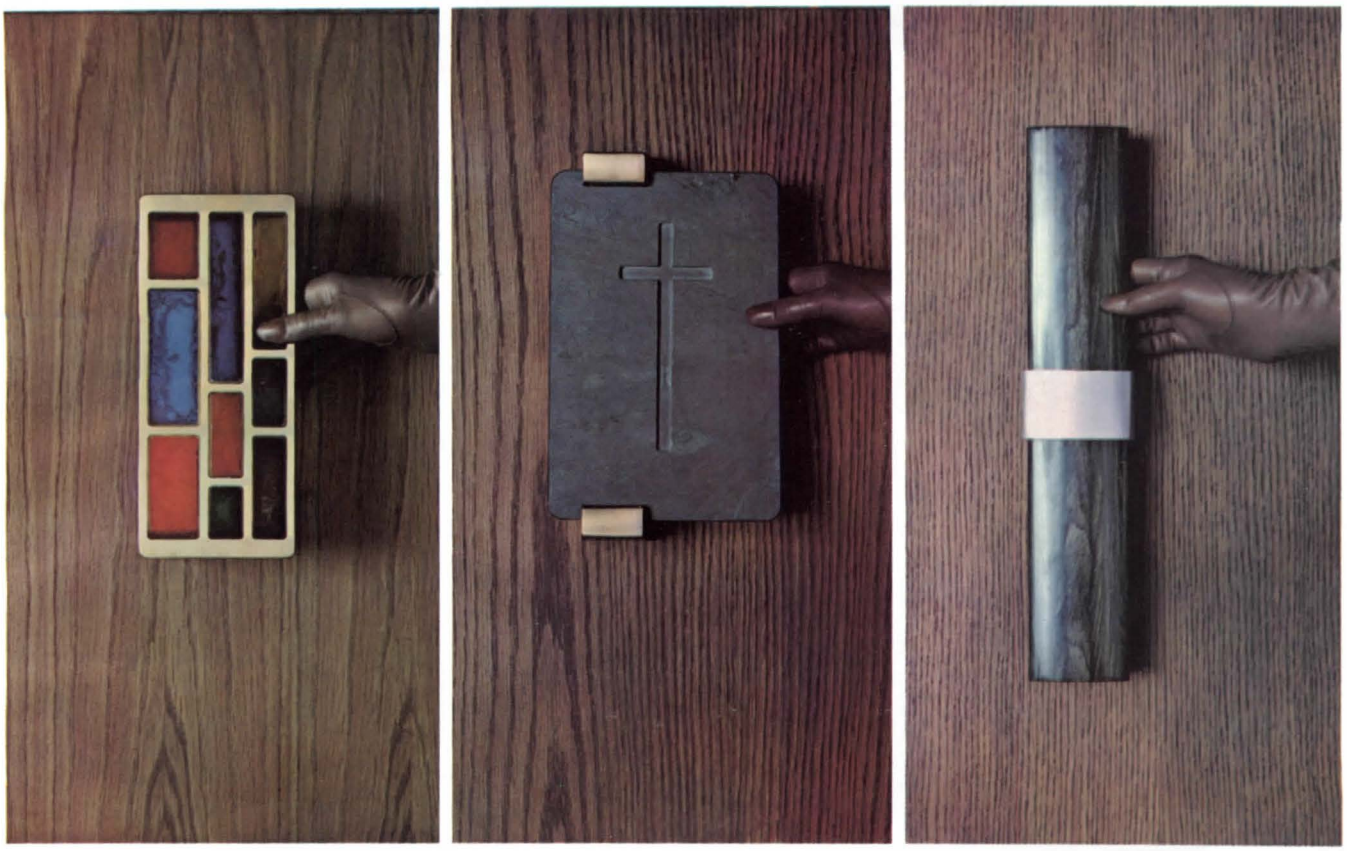
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Continued from page 226

Modern School Shop Planning. Fourth Revised and Enlarged Edition. Prakken Publications, Inc., 416 Longshore Drive, Ann Arbor, Mich., 1965. 257 pp., $4.50.

National Fire Codes: 1965-66. Ten Volumes. National Fire Protection Association, 60 Batterymarch St., Boston, Mass., 1965. $30 for the set; $4 per volume.

The Penguin Encyclopedia. Edited by Sir John Summerscale. Penguin Books, 39 West 55 St., New York, N.Y., 1966. 552 pp., illus., $1.95 (paperbound).

A useful desk reference work with short but well-written and up-to-date information on all subjects.

Planning, Zoning, Subdivision: A Summary of Statutory Law in the Fifty States. By Robert M. Anderson. The New York State Federation of Official Planning Organizations, 112 State St., Albany, N.Y., $6.50.

Willy Stäubli: Brasilia. Universe Books, Inc., 381 Park Ave. South, New York, N.Y., 1966. 197 pp., illus., $15.00.

A thorough description in text and photographs of the architecture of the new city and University—not the social or economic aspects—with reports by Costa and Niemeyer.

Tenant Action. By The Architects' Renewal Committee in Harlem (ARCH), 306 Lenox Ave., New York, N.Y., 1966. 66 pp., $1.25.

A handbook intended for tenants, and organizations of tenants, in older and poorly maintained buildings where housing problems are a daily occurrence and conditions are often a serious threat to life and health. The handbook details tenants' rights and means of acting on them.

The Urban Evolution Theory. By Eric E. Embacher. Copi-Rite Reproductions Co. Ltd., 111 Vulcan St., Rexdale, Ontario, Canada, 1966. Illus., $3.50.

A discussion of ways of planning the growth and change of cities without submitting them to repetitive obsolescence and continuous adaptation. Embacher's method is "space-time planning," which permits urban growth without waste. The "Urban Evolution Theory" tries to relate the urban phase of global evolution to the preceding biological phase, using the "urban cell" as a unit, together with groups of urban cells and systems for grouping them, to formulate a philosophical basis for a space-time planning concept for growing but changing urban environments.

With Heritage So Rich. A Report of a Special Committee on Historic Preservation. Under the auspices of the U.S. Conference of Mayors. Random House, 457 Madison Ave., New York, N.Y., 1966. 230 pp., illus., $10.

A book written by several people, including three architects, who believe that "Land without population is a wilderness, and population without land is a mob." A rational plea for preservation of the nation's remaining natural and architectural heritage.

The Work of Frank Lloyd Wright. The Great Wendingen Edition. Introduction by Mrs. Frank Lloyd Wright: contributions by Frank Lloyd Wright and other architects and writers. Horizon Press, 156 Fifth Ave., New York, N.Y., 1965. 164 pp., illus., $42.50.

This edition retains the double-fold pages,

Continued on page 242

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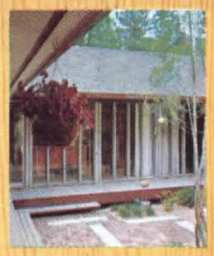
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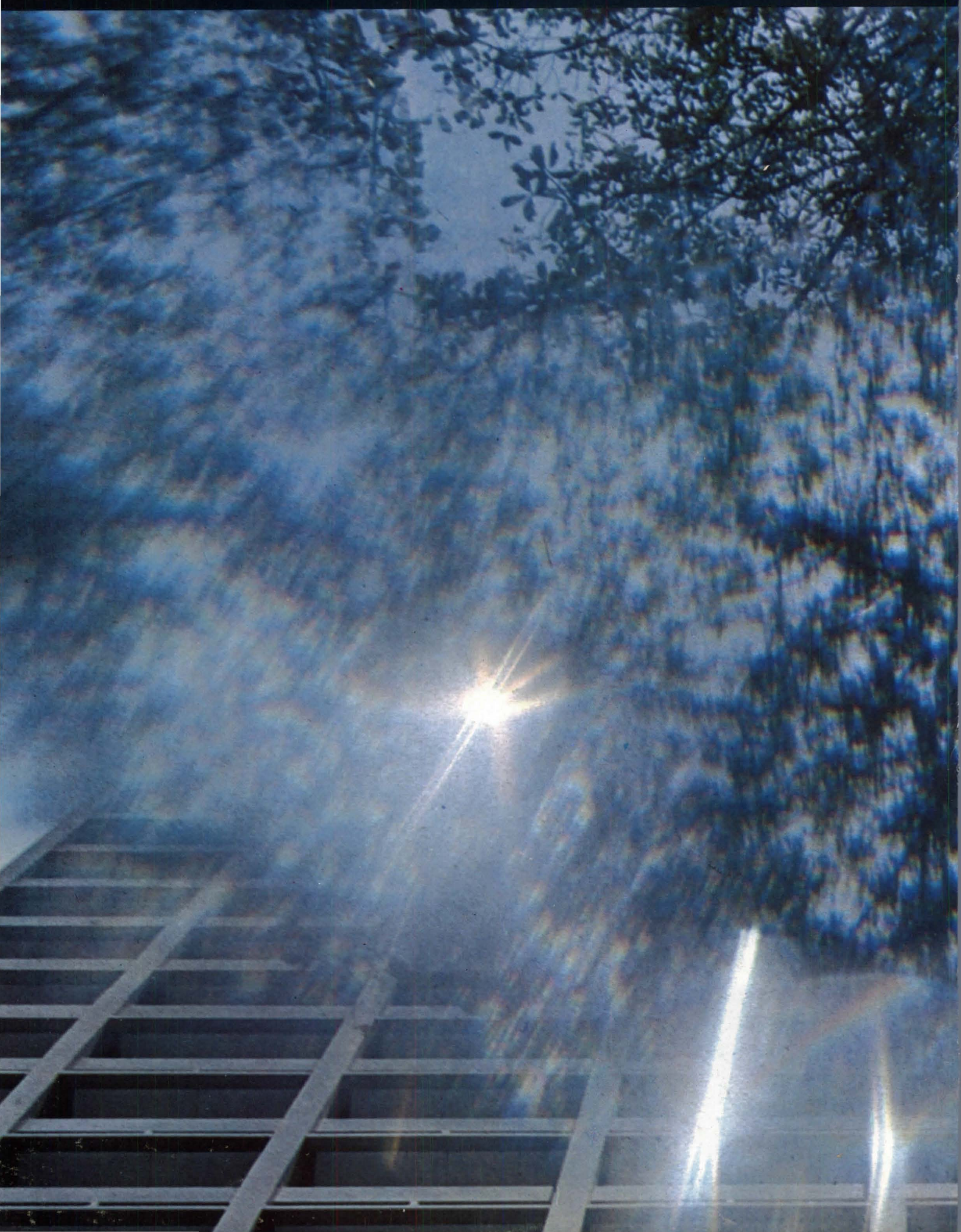








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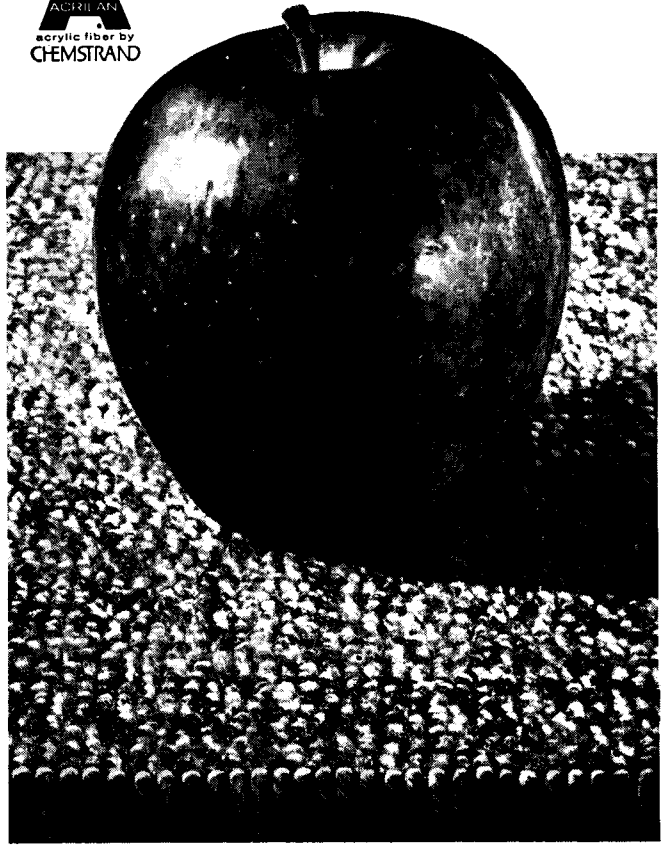
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Continued from page 234

and the printing and binding of the original. Some photographs, which show better views of buildings than in the original, were added, together with all the dates and locales for each of the buildings.

The World Cities. By Peter Hall. McGraw-Hill Book Co., 330 West 42 St., New York, N.Y., 1966. 256 pp., maps, illus., $2.45 (paperbound).

In 1915, Patrick Geddes christened as "the world cities" London, Paris, Randstad Holland, Rhine-Ruhr, Moscow, New York, and Tokyo, because a disproportionate share of the world's business was being transacted in them. This book describes each one in statistical, geographic, economic, and urban planning terms.

NOTICES

New Firms

HOBART D. BETTS, Architect, 41 East 57th St., New York, N.Y.

VAUDLINE A. CURTIS & ASSOCIATES, Architects, 3700 Upton Avenue, Toledo, Ohio.

KENNARD and SILVERS, Architects/Planners, 5605 West Washington Boulevard, Los Angeles, Calif.

NEVED & KIMBALL, Architectural and Hospital Consultants, 360 N. Michigan Avenue, Chicago, Ill.

JERRY EDWARD RYAN, Architect, 205 West Harrison Avenue, New Orleans, La.

Name Changes

I.M. PEI & PARTNERS, Architects, New York City, New York; formerly I.M. PEI & ASSOCIATES.

LINN SMITH, DEMIENE, KASPRZAK, ADAMS, Inc., Architects, Birmingham, Ala.; formerly LINN SMITH ASSOCIATES, Inc.

MCLURG AND WALL, ARCHITECTS, Virginia Beach, Va.; formerly, WILLIAM EDWARD MCCLURG, ARCHITECT.

SAPPENFIELD-WIEGMAN-HALL Associates, Architects, Asheville, N.C., upon the association of CHARLES M. SAPPENFIELD, JAN M. WIEGMAN, and JOSEPH K. HALL for the practice of architecture.

THE FREEMAN-WHITE ASSOCIATES, Charlotte, N.C.; formerly, WALTER HOOK ASSOCIATES.

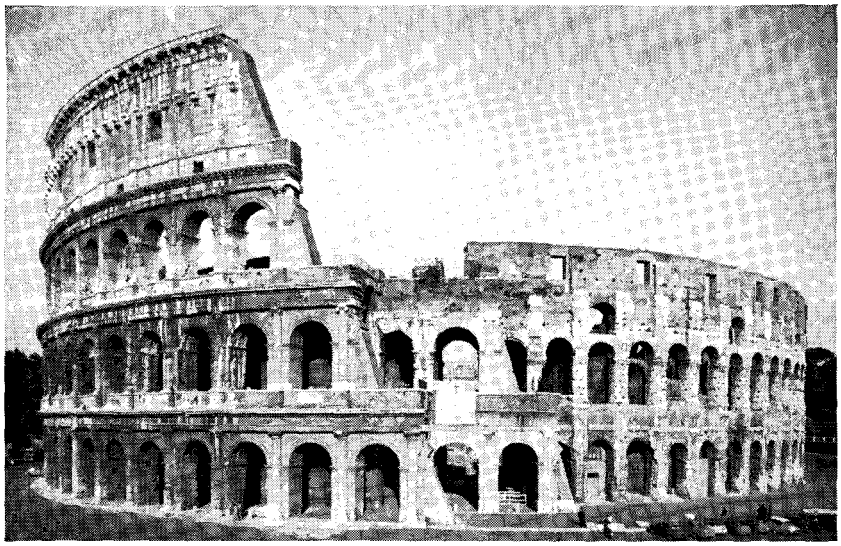
MILSTEIN, WITTEK, DAVIS & HAMILTON, Architects, Buffalo, N.Y., upon the formation of a partnership; formerly, MILTON MILSTEIN & ASSOC.

DONALD REAY, Architect and Planner, Berkeley, Calif., upon the termination of a partnership; formerly, DE MARS & REAY.

SIEGAL-AVRIN ASSOCIATES, architects, Detroit, Mich., upon the admission of GERALD M. AVRIN as a partner; formerly LEONARD G. SIEGAL ASSOCIATES, Architects.

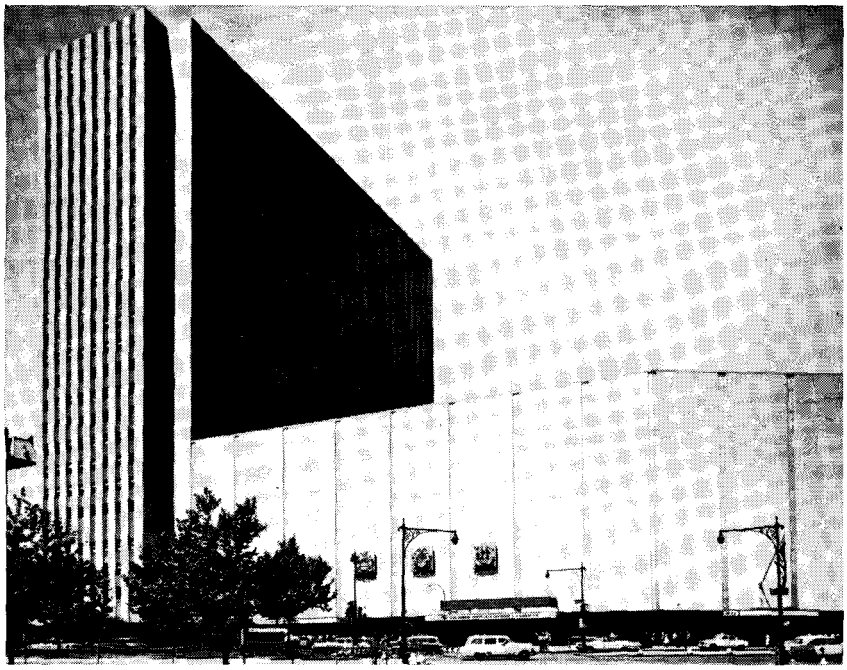
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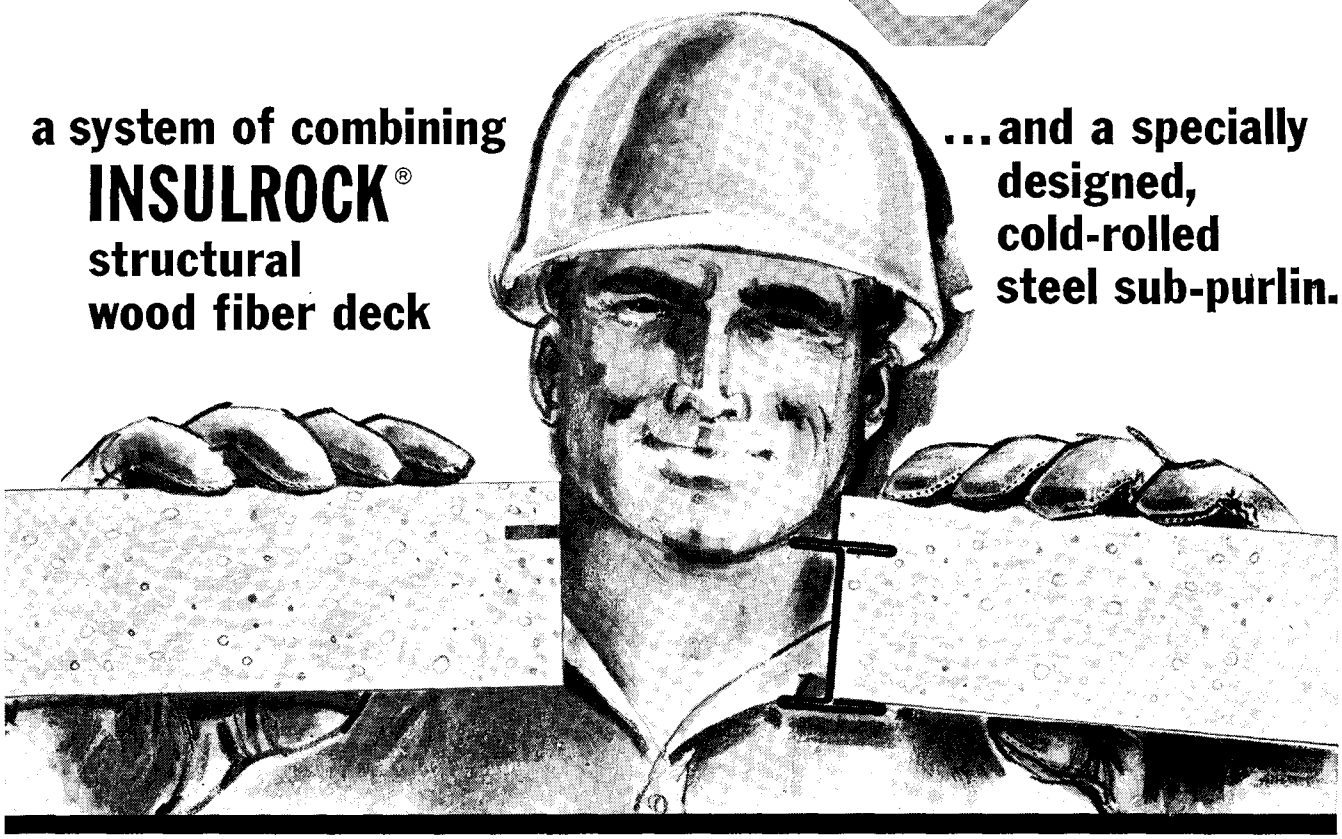
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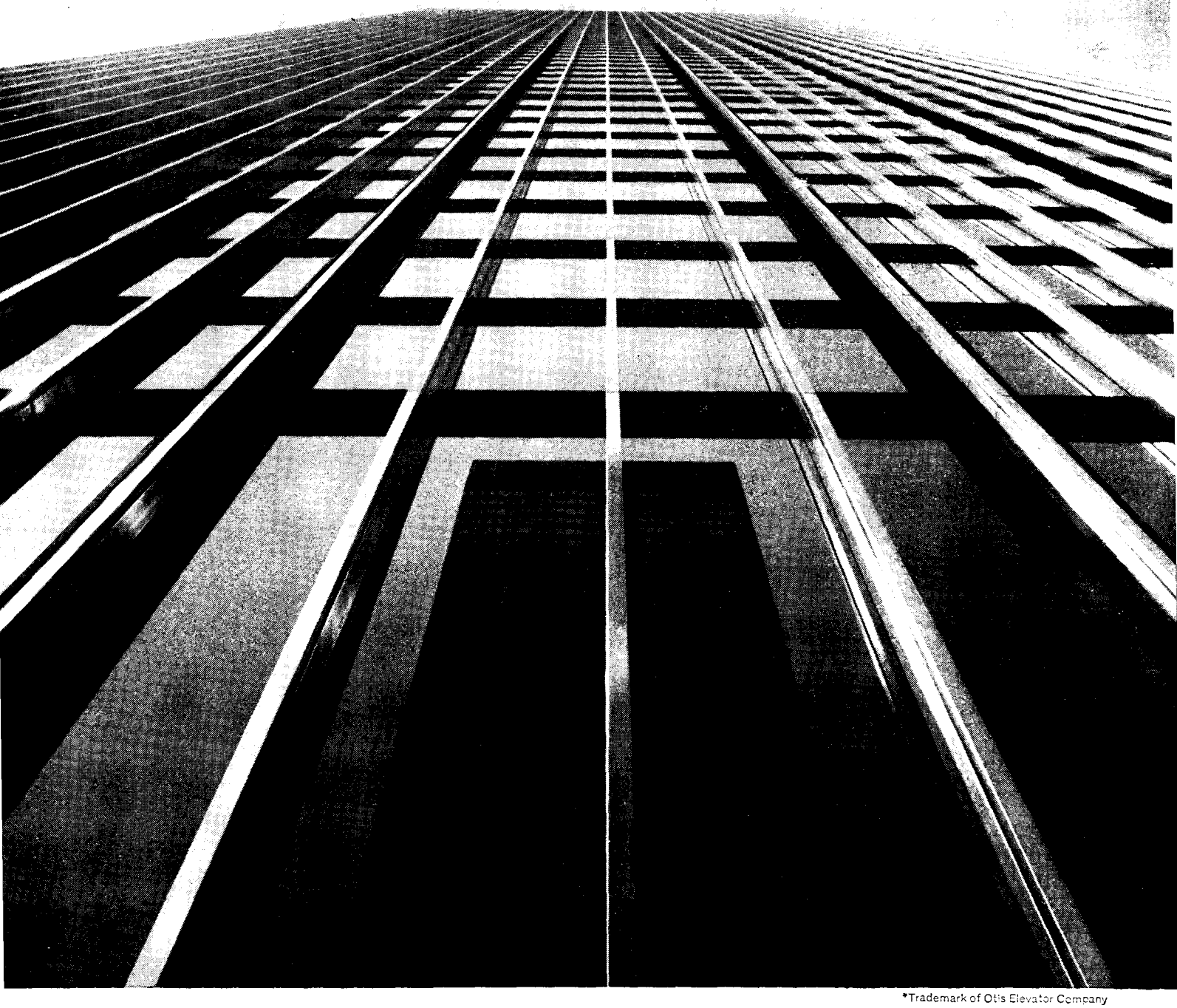
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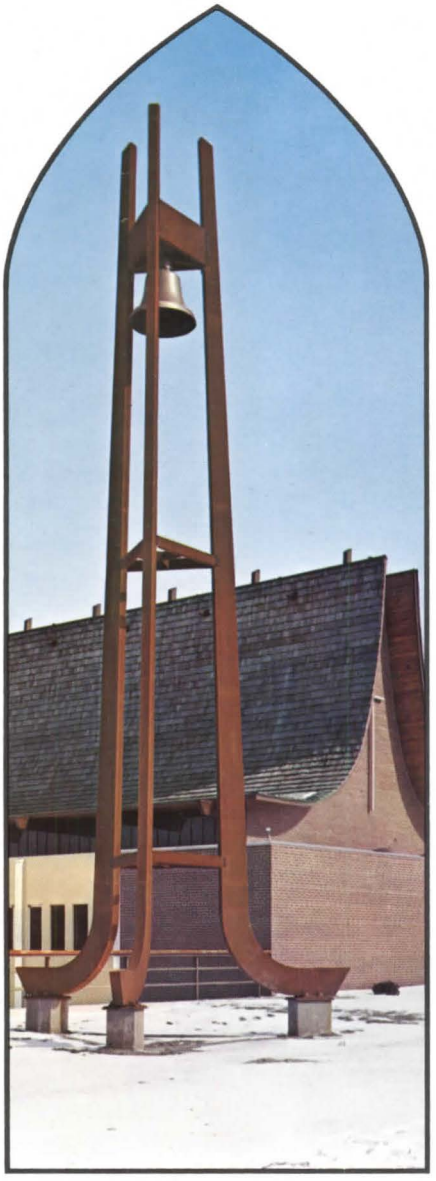
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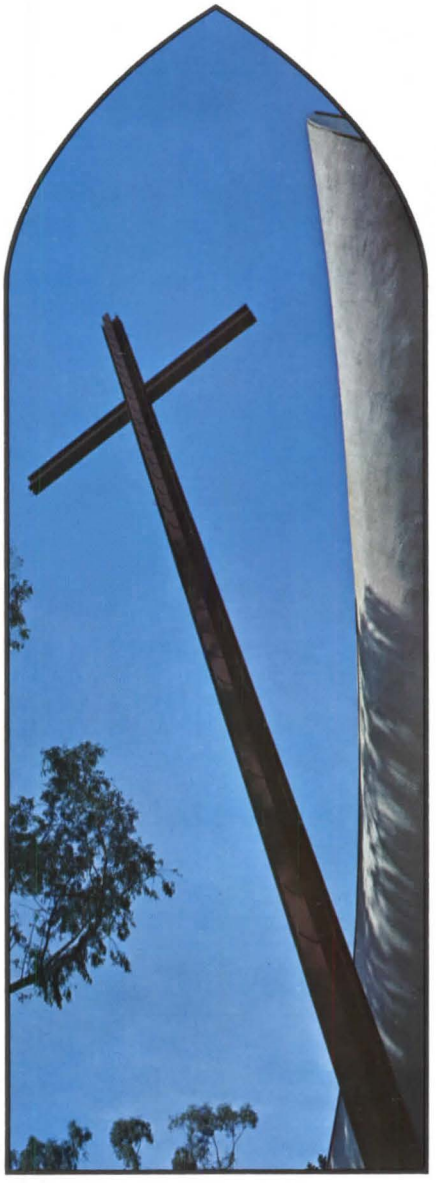
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Our Savior's Lutheran Church, Eau Claire, Wis.
Designer/Structural Fabricator: Phoenix Steel Corp. Eau Claire, Wis.



Loyola Jesuit Retreat House, Portland, Oregon
Architect: Moloney, Herrington, Freesz and Lund, Seattle, Washington



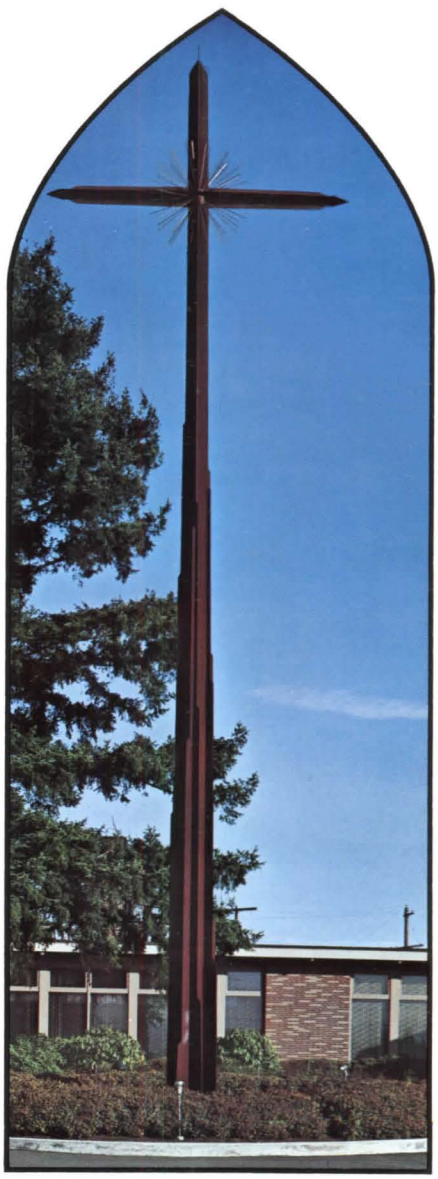
Hockessin Methodist Church, Hockessin, Delaware
Sculptor: Charles C. Panks, Hockessin, Delaware



St. John's Episcopal Church, Celina, Ohio
Architect: Wright & Gilfelen, Celina, Ohio

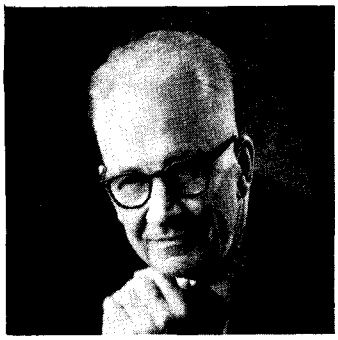
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Pacific Lutheran Theological Seminary, Berkeley, Cal.
Architect: Leefe & Ehrenkrantz, San Francisco, Cal.

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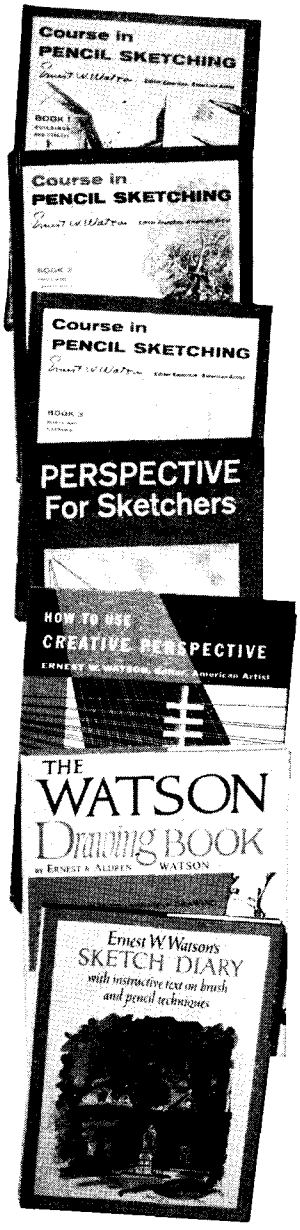
Here is a unique text on the professional level. It demonstrates how America's top illustrators use perspective creativity, that is, often violating standard scientific procedures in order to achieve greater reality and dramatic effect. This book, illustrated by their work and the author's analysis of it, has become an authoritative text in art schools and for all serious illustrators. 160 pp. 350 illustrations: photographs, line drawings, charts, and diagrams. **HOW TO USE CREATIVE PERSPECTIVE. $7.95**

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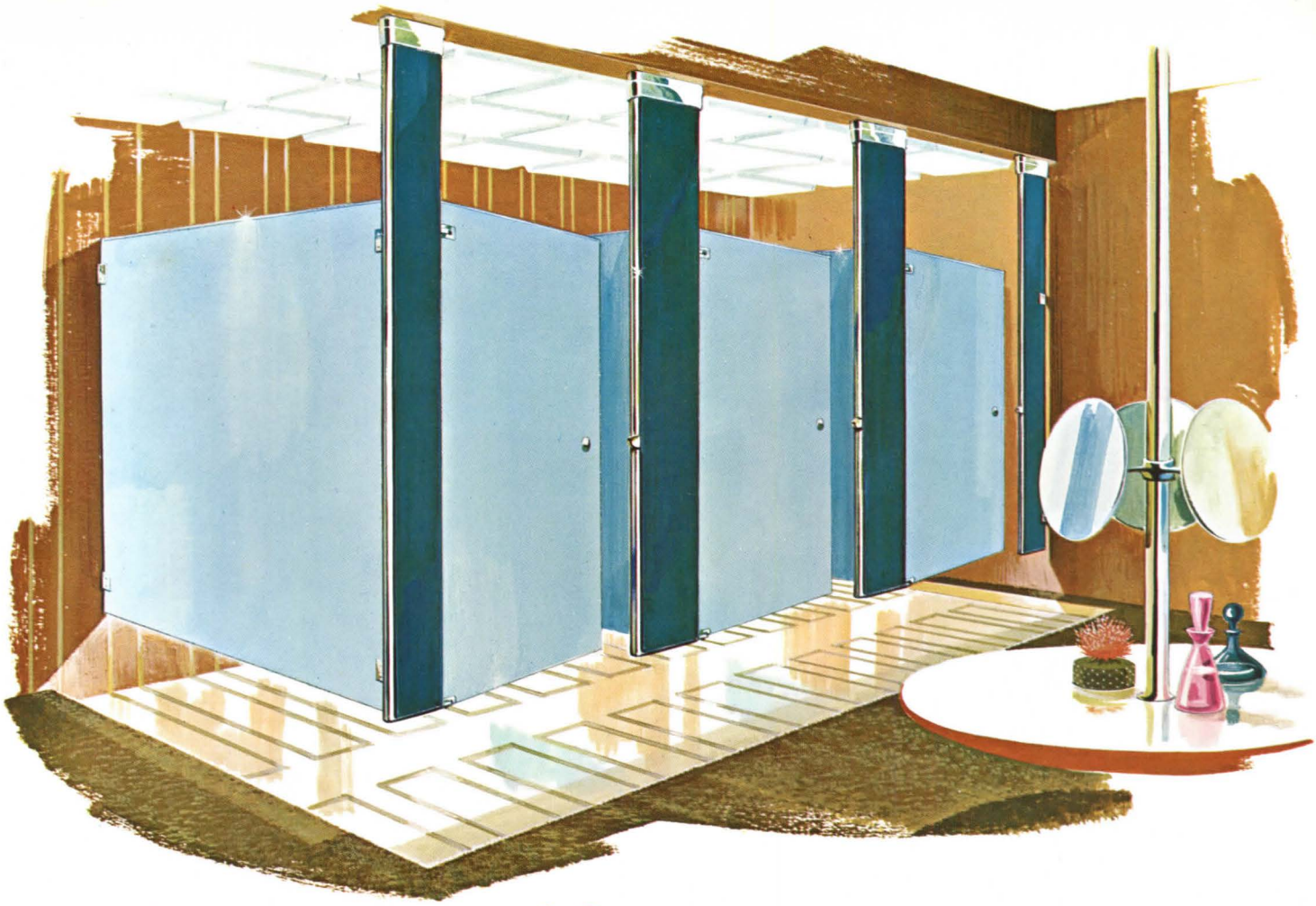
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Continued from page 242

New Branch Offices

A. V. SMITH ENGINEERING CO. announces opening of branch office in Charlotte, N.C.

EDGAR TAFEL, Architect, announces opening of new offices at 74 Fifth Ave., New York, N.Y.

WILDERMUTH & BONE, Architects, announce opening of new offices at 2655 Whipporwill, Portage, Ind.

Elections, Appointments

HERMAN BLUM, Consulting Engineers, Dallas, Tex., have appointed WILLIAM E. FOLSOM head of the lighting design engineering department; they have named WINFIELD DAN WELDON field supervisor.

CHARLES LUCKMAN ASSOCIATES, Architects, Engineers, Planners of Los Angeles and New York, have appointed JAMES McARTHUR vice-president.

FORD, BACON & DAVIS, Engineers, New York City, have elected RUSSELL P. WESTERHOFF as chairman and chief executive officer.

FINCH, ALEXANDER, BARNES, ROTHSCHILD & PASCHAL, Architects, Engineers, and Interior Designers, Atlanta, Ga., have appointed IRA GRAYBOFF an associate chief designer.

GUIREY, SRNKA & ARNOLD, Architects of Phoenix, Ariz., have appointed H. MAYNARD BLUMER an associate architect.

I.S.D. Inc., Interior Space Designers of New York and Chicago, have appointed BURT M. RICHMOND as manager of business planning in their Chicago office.

P & W ENGINEERS, INC., have appointed LOUIS A. BACON vice-president, structural engineering.

MACKNIGHT, KIRMMSE & FRENCH, Architects, Syracuse, N.Y., have appointed S. JEROME SIZING chief structural engineer.

New Partners, Associates

BLACK, PAGLIUSO & ASSOCIATES of Rolling Hills Estates, Calif., have formed a partnership including: THOMAS P. BLACK, THOMAS R. PAGLIUSO; FRANK T. SATA; and WILLIAM L. O'DOWD.

BUCK, SIEFERT & JOST, Consulting Engineers, Englewood Cliffs, N.J., announce that EDWIN H. HARTMAN and DOMENIC J. PULICE have joined the firm as associate engineers.

GLEN PAULSEN & ASSOCIATES, Architects of Bloomfield Hills, Mich., have named THEODORE E. KURZ a principal.

WHITTLESLEY, CONKLIN & ROSSANT, Architects and City Planners, New York, have named BURTON WILLIAM BERGER an associate partner.

Continued on page 254



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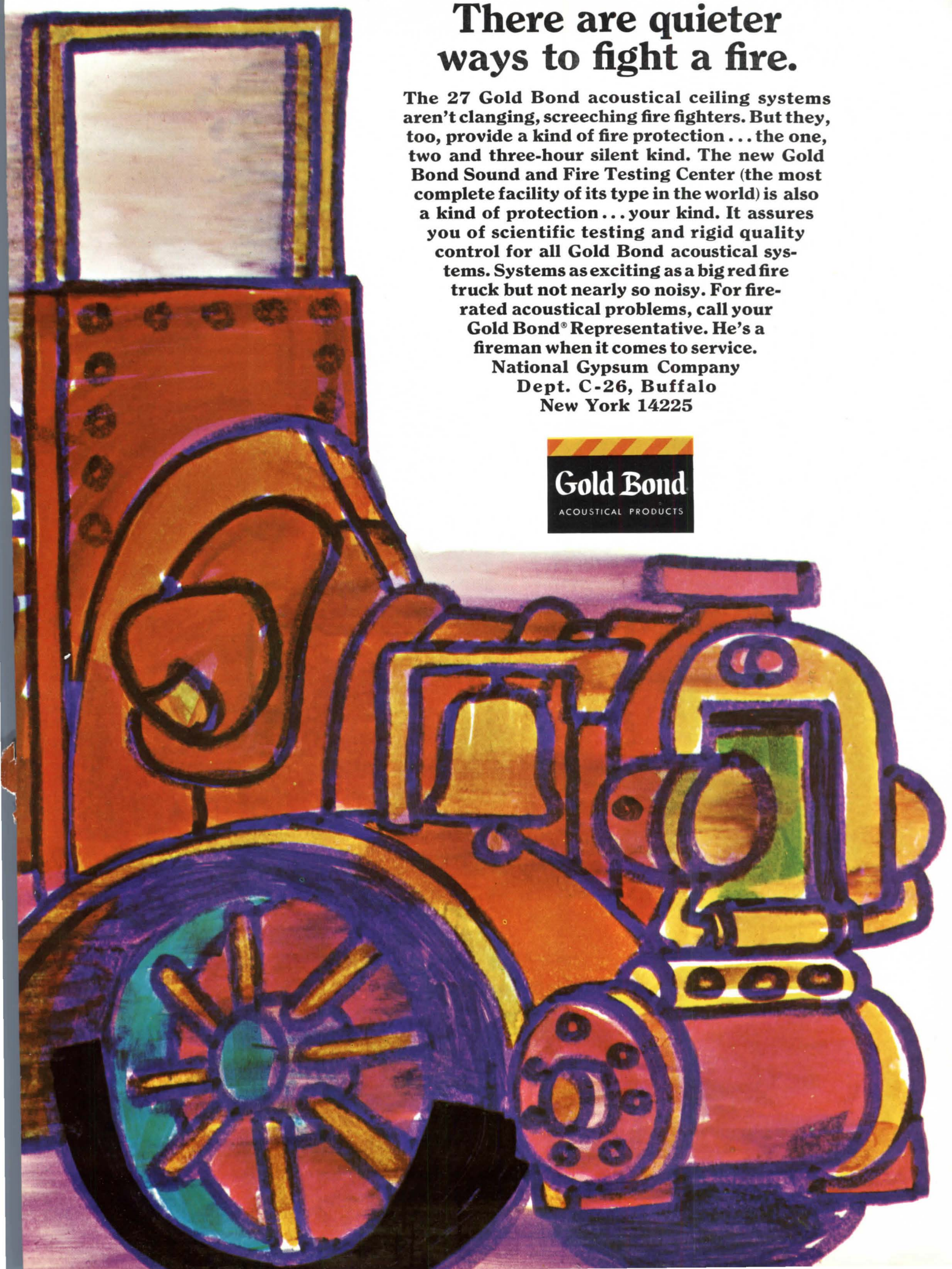


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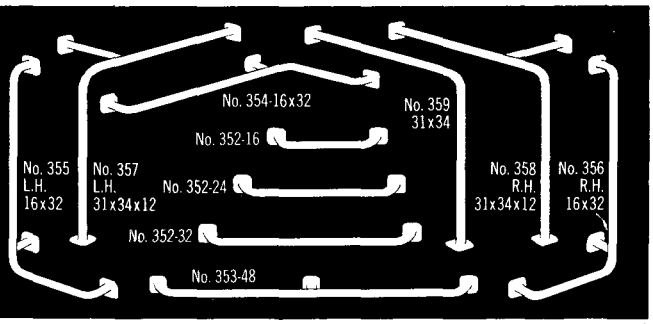
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Continued from page 251

P & W ENGINEERS, Inc., Chicago, have named EDMUND J. SEBASTION vice-president.

RICHARDS, BAUER & MOORHEAD, Architects, Engineers of Toledo, Ohio, have named three new associates: JOHN W. RAGGON, construction superintendent; GERALD L. HEISER, chief mechanical engineer; and MICHAEL G. ROUSOS, assistant chief structural engineer. Named senior associates were: H. LEE SMITH, CHARLES H. STARK, and LELAND E. MOREE, architects; DEAN L. LASHBROOK, chief structural engineer, and ROBERT W. MCMAHON, chief electrical engineer.

TWEDDELL & WHEELER, Architects, Cincinnati, Ohio, have appointed as new partners DELMAR L. STRICKLAND and ROBERT W. BEUMER; JERRY W. HUGHES is a new associate.

WALKER & MCGOUGH, Architects, Virginia Beach, Va., announce the appointment of two partners: WALTER W. FOLTZ and ROBERT J. NIXON.

ENVIRONMENT PLANNING, INC., announces that THOMAS W. HANRAHAN is associated with the firm.

LAWRENCE HALPRIN & ASSOCIATES, Architects, San Francisco, Calif., have named THOMAS E. BROWN an Associate.

HILLMAN-GARMENDIA-ARCHITECTS, New York, N.Y., have named LOUIS R. MORANDI an Associate.

HOBERMAN & WASSERMAN, Architects, New York, N.Y., have named JOHN GALLAGHER a partner.

HOLFORTY WIDRIG O'NEILL & ASSOC, INC., Consulting Engineers, Troy, Mich., have named ARTHUR W. BUTTERY, an associate.

KEYES, LETHBRIDGE & CONDON, Architects, Washington, D.C., have named COLDEN L'H. R. FLORENCE and ROSCOE REEVES, JR., as associate partners; ROGER L. POMPEI, JOHN DAVID REDDICK, JR., THOMAS B. SIMMONS, and GARY E. SUNDERLAND have been named as associates.

MACKNIGHT, KIRMMSE & FRENCH, Architects, Syracuse, N.Y., have named RICHARD A. RUST and VINCENT M. FRAGOLA as associates.

New Addresses

ALEX DANIN & Associates, Architects, 1841 Broadway, New York, N.Y.

JOHN H. ALSCHULER, 222 West Adams Street, Chicago, Ill.

CHARLES A. COIRO, Architect, 104 East 40th Street, New York 16, N.Y.

DAVID A. CRANE, Architect, 168 Patton Lane, Radnor, Pa.

EPPING, WHITNEY & FOX, Architects, 104 East Avenue, Rochester, N.Y.

Continued on page 261

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by Frank S. Fitzgerald
Technical Director
Architectural Aluminum
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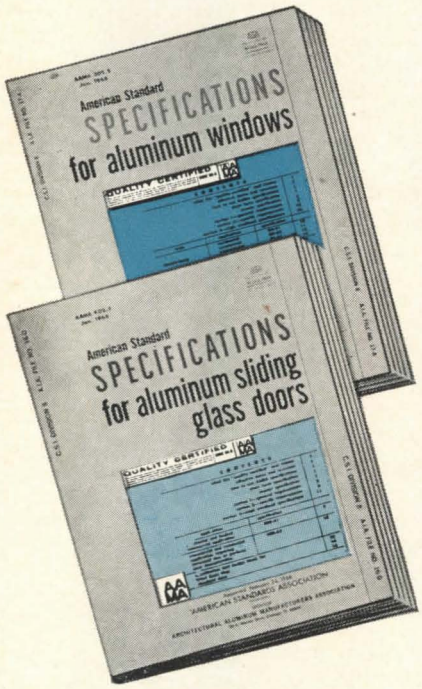
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ASA A134.2-1966

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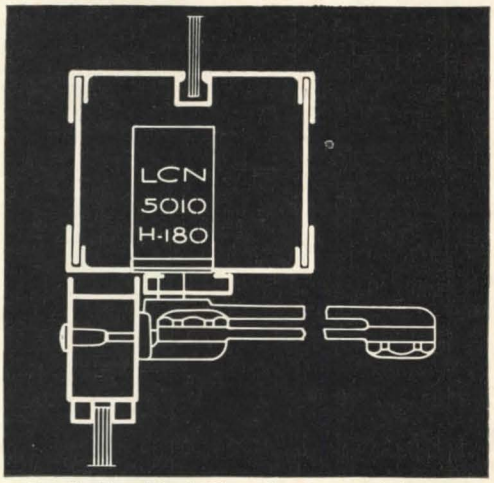
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Continued from page 254

DAVID D. FISCHER, Architect, 365 Broadway, Hillsdale, N.J.

HOWELL DESIGN CORPORATION, industrial and interior design firm, 29 Fifth Avenue, New York, N.Y.

I.M. PEI & PARTNERS, Architects, 600 Madison Avenue, New York, N.Y.

JACK KLEIN & HENRY SEARS, Architects, 40 Prince Arthur Ave., Toronto 5, Ontario, Canada.

GILBERT W. SAVAGE & ASSOCIATES, Architects, 20000 W. Twelve Mile Road at Evergreen Road, Southfield, Mich.

SULLAM & AEHLE, Architects, 1661 E. Olive Way, Seattle, Ore.

DIMITRI J. VERVERELLI, Architect, 1500 Chestnut Street, Philadelphia, Pa.

WERNER-DYER & Associates, Architects, Engineers, Planners, 1301 15th Street, NW Washington, D.C.

ATCHISON, KLOVERSTROM, SAUL & ATCHISON, Architects, 3970 E. Exposition Ave., Denver, Col.

KING, BENIOFF & ASSOC., Consulting Engineers, 13701 Riverside Drive, Sherman Oaks, Calif.

PEDRO F. LOPEZ ASSOC., Architects and Urban Planners, Woolworth Building, 233 Broadway, New York, N.Y.

HARPER RICHARDS ASSOC., LTD., Architects, 43 East Ohio St., Chicago, Ill.

Miscellaneous

COMMONWEALTH ASSOCIATES, Inc., has created an urban planning consulting service, 209 E. Washington Ave., Jackson, Mich.

SOUTHERN ELECTRONIC ENGINEERING COMPANY now has its production facilities and executive offices at 2445 3rd Avenue, with mailing address at P.O. Box SEECO, Cochran Field, Macon, Ga.

AMERICAN CRAFTSMEN'S COUNCIL, New York, N.Y., announces its new ARCHITECTURAL & DESIGN SERVICE, slides and photos of craftsmen's work suitable for architectural commissions; plus services of Research and Education Dept.

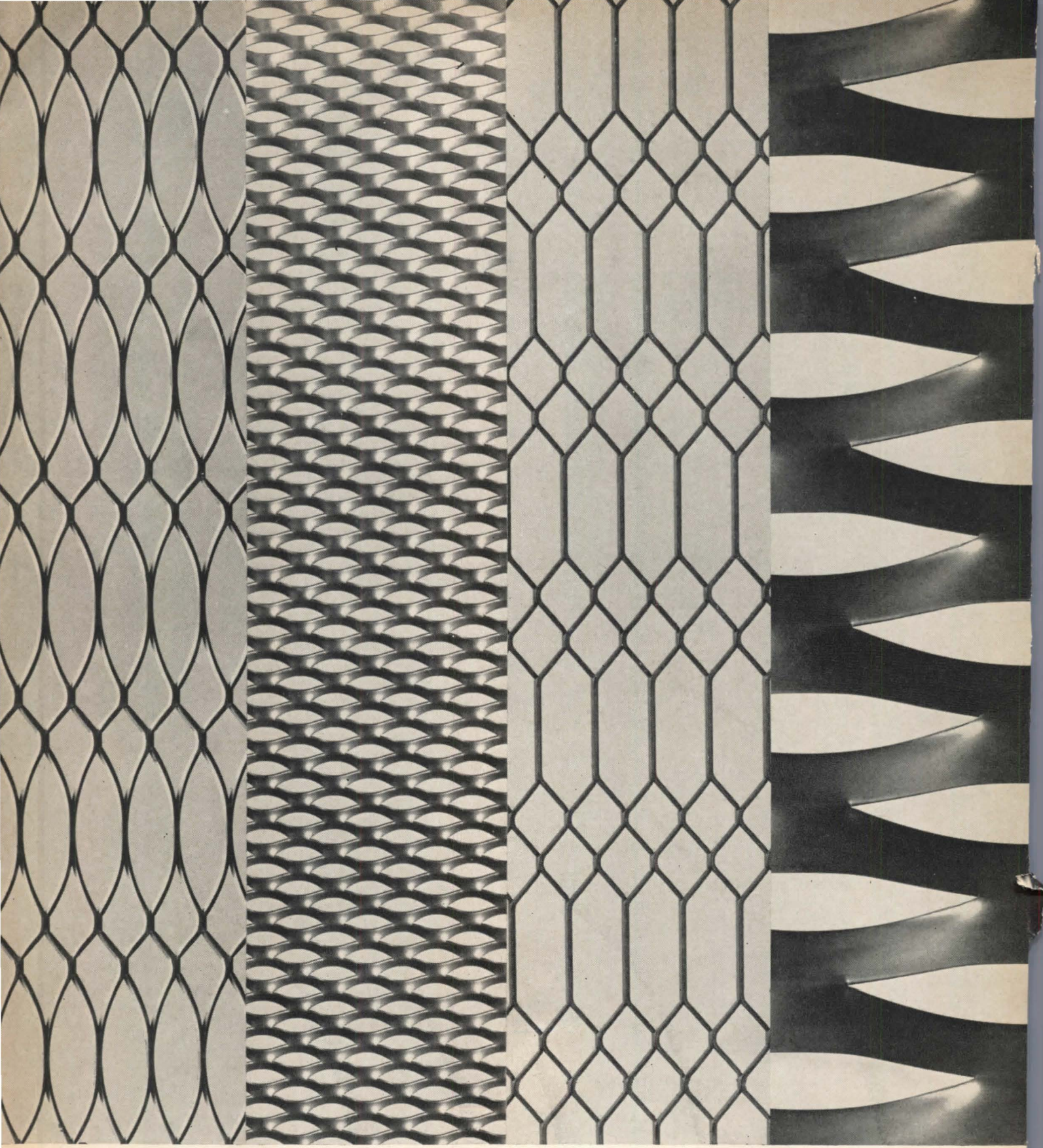
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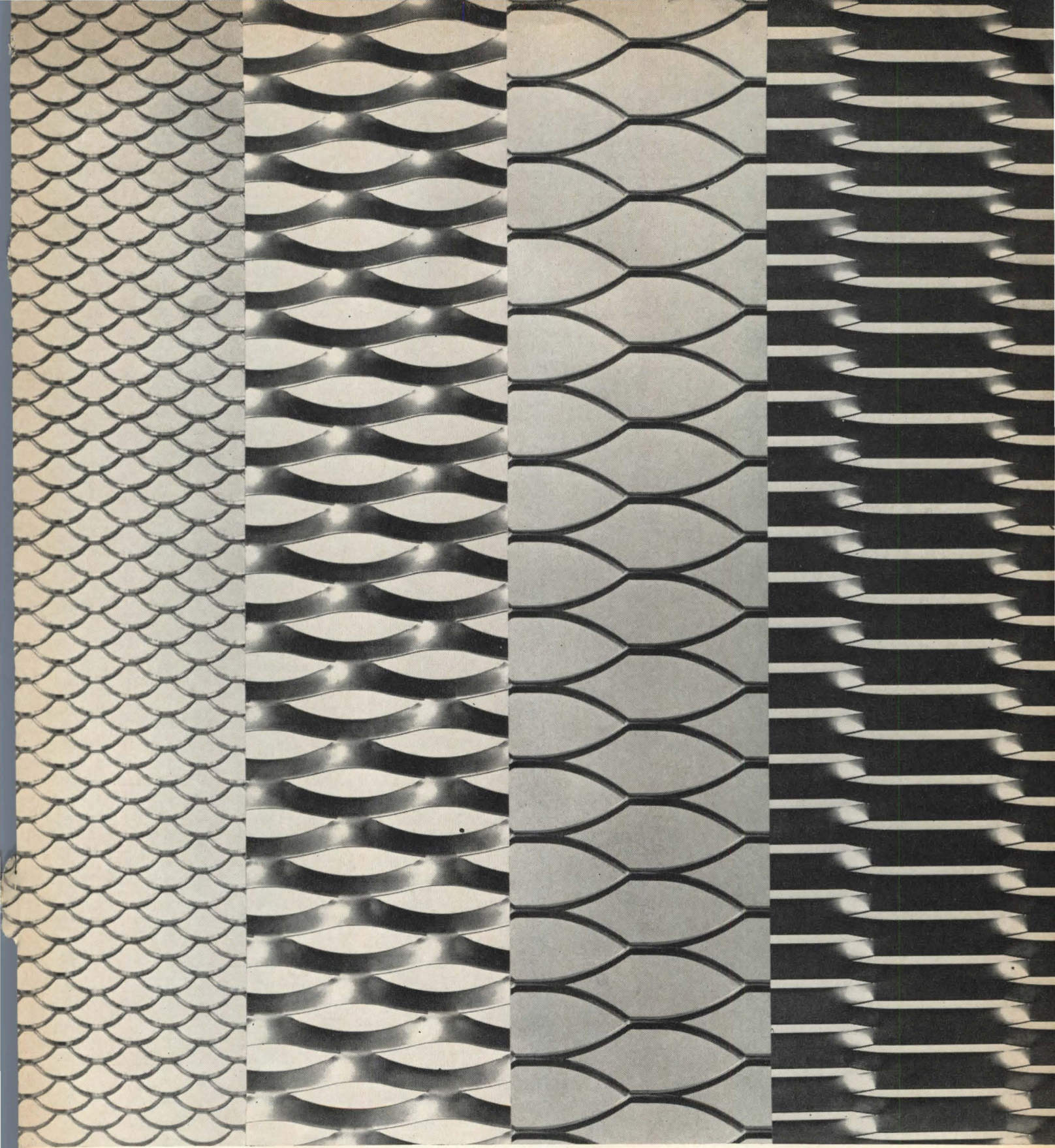
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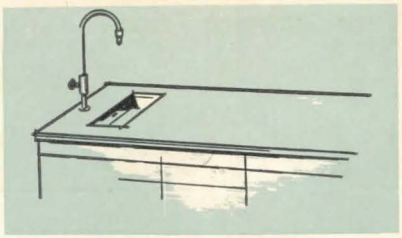
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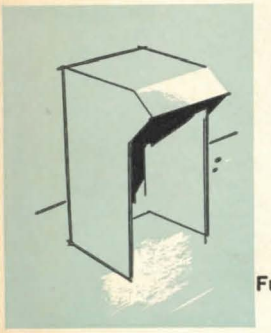
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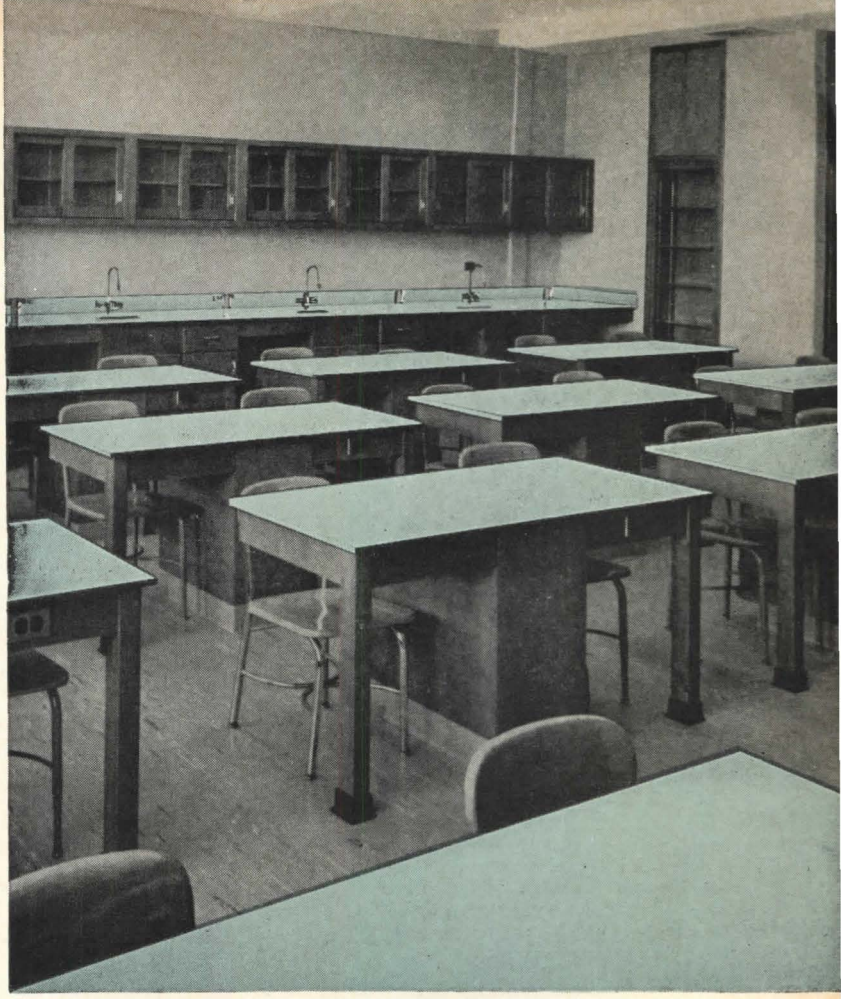
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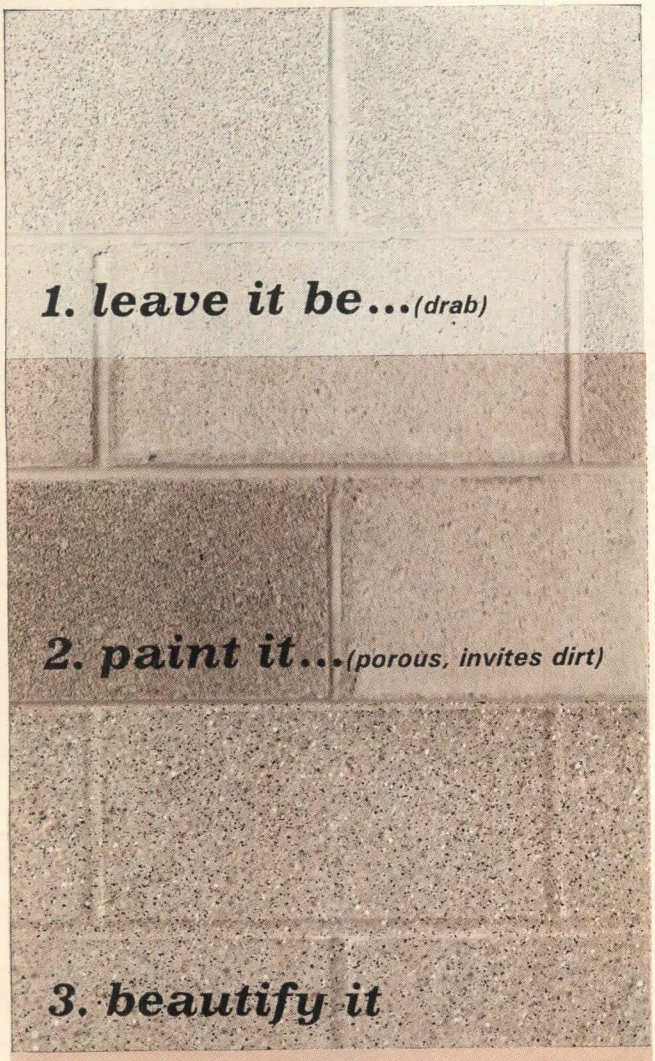
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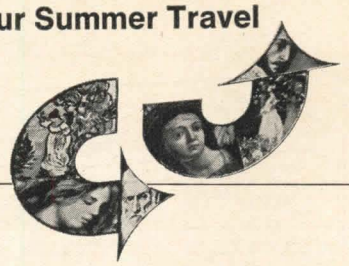
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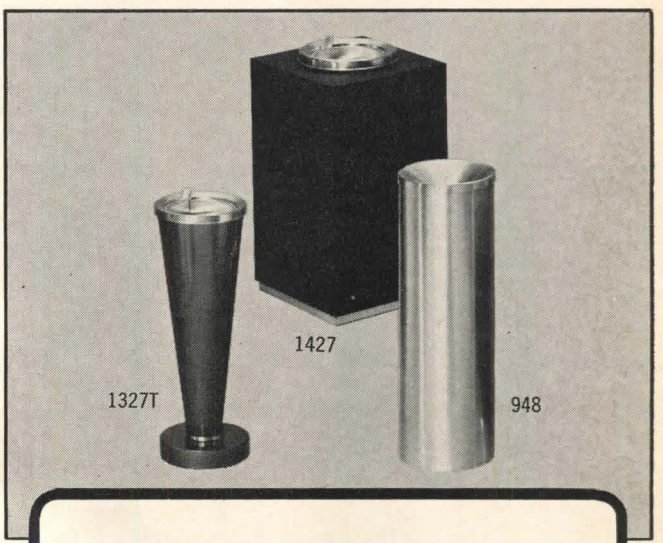
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